

Chikungunya

Last updated: 1 July 2012

Public health priority:

High

PHU response time:

Respond to confirmed cases within three days

Enter confirmed cases on NCIMS within five working days

Case management:

Determine possible exposures

Contact management:

Nil

1. Reason for surveillance

- To identify and control cases of disease
- To monitor the epidemiology and so inform the development of better prevention and control strategies.

2. Case definition

A confirmed case requires laboratory definitive evidence only.

Laboratory definitive evidence

- Isolation of chikungunya virus **OR**
- Detection of chikungunya virus by nucleic acid testing **OR**
- Seroconversion or a significant rise in antibody level or a fourfold or greater rise in titre to chikungunya virus, in the absence of a corresponding change in antibody levels to Ross River virus and Barmah Forest virus **OR**
- Detection of chikungunya virus-specific IgM, in the absence of IgM to Ross River virus and Barmah Forest virus

Confirmation of laboratory results by a second arbovirus reference laboratory is required in the absence of travel history to areas with known endemic or epidemic activity.

3. Notification criteria and procedure

Chikungunya cases are to be notified by laboratories on diagnosis by routine mail. Only confirmed cases should be entered onto NCIMS

4. The diseases

Infectious agents

Chikungunya is one of the arboviruses (arthropod borne viruses) known to be pathogenic for humans. Chikungunya is a member of the genus *Alphavirus*, in the family *Togaviridae* (Ross River virus, Barmah Forest virus and Sindbis are also *alphaviruses*).

Chikungunya infections occur in many parts of Africa and Asia, including many areas where dengue is common. There have been no reports of chikungunya virus transmission in Australia.

Mode of transmission

The chikungunya virus is transmitted by the bite of an infected *Aedes* spp. Mosquito, predominantly *Aedes aegypti* and *Ae. albopictus*.

Human-to-vector-to-human transmission occurs during outbreaks of the disease. Bloodborne transmission is possible; cases have been documented among laboratory personnel handling infected blood and a health care worker drawing blood from an infected patient.

The risk of a person transmitting the virus to a mosquito or through blood is highest when the patient is viraemic during the first 2–6 days of illness.

Maternal-foetal transmission has been documented during pregnancy. The highest risk occurs when a woman is viraemic at the time of delivery, with a vertical transmission rate of 49%. CHIKV does not appear to be transmitted through breast milk.

Timeline

The incubation period can range from can be 2-12 days, but is usually 3-7 days.

Clinical manifestations

Typical symptoms include fever, headache, fatigue, nausea, vomiting, muscle pain, rash, and joint pain. Illness from the chikungunya virus tends to be more severe than that of Ross River or Barmah Forest viruses. Symptoms such as arthralgia, myalgia and lethargy may occasionally persist for many months.

Asymptomatic infection can occur but it is unknown how common this is.

It is important to distinguish CHIKV from dengue, due to the potential for worse outcomes (including death) from dengue. The two diseases can occur together in the same patient. With CHIKV:

- Pain is more intense and localized to the joints and tendons in CHIKV.
- Onset of fever is more acute in CHIKV and is also shorter in duration.
- Shock or severe haemorrhage is rarely observed in CHIKV.

5. Managing single notifications

Response times

Investigation

Within three working days of notification begin follow-up investigation.

Data entry

Within five working days of notification enter on NCIMS confirmed cases.

Response procedure

The response to a notification will normally be carried out in collaboration with the case's health carers. But regardless of who does the follow-up, PHU staff should ensure that action has been taken to:

- Confirm the onset date and symptoms of the illness
- Confirm results of relevant pathology tests, or recommend the tests be done (encourage the managing doctor to take convalescent sera to confirm the diagnosis)
- Ensure confirmation by a second test if the case has been acquired in a previously unaffected area
- Find out if the case or relevant care-giver has been told what the diagnosis is before interviewing them

- Seek the doctor's permission to contact the case or relevant care-giver
- Review case management
- Identify likely source of infection.

Case management

Investigation and treatment

Supportive treatment only.

Education

The case or relevant care-giver should be informed about the nature of the infection and the mode of transmission.

Acutely infected persons must avoid being bitten by Aedes mosquitoes, in order to prevent further transmission of the virus. Encourage measures to reduce the chance of being bitten by mosquitoes and discourage travel to areas known to have competent Aedes vectors (e.g. Far North Queensland) for at least 6 days after the onset of symptoms.

Exposure investigation

The case should be asked to recall if, in the incubation period, he or she had visited regions where chikungunya is endemic. If there is no history of such travel and then additional information should be sought to identify possible areas of local transmission, including:

- History of being bitten by mosquitoes
- Participated in recreational or other activities involving exposure to bushland or other mosquito habitat (as in, for example, gardening, bushwalking and picnicking).

Isolation and restriction

Infected people should be protected from further mosquito exposure (staying indoors in areas with screens or under a mosquito net) during the first few days of the illness, so they do not contribute to the transmission cycle.

Environmental evaluation

Chikungunya virus is not known to be transmitted in Australia. However, the mosquito vectors for transmission exist in Australia so there is the potential for local transmission to occur. Cases without a relevant travel history should be discussed with NSW Health Department's Centre for Health Protection.

Contact management

Identification of contacts

Potentially exposed people are those who may have been exposed to the same source as the case. However, active searching for these people is not usually indicated.

Treatment

Passive immunisation

None

Active immunisation

None

Antibiotic prophylaxis

None

Education

Educate the public planning to live in or travel to CHIKV-endemic areas to minimise exposure to mosquito bites. Information should indicate geographical location of habitats, and periods of maximum mosquito activity and also refer to protective clothing, appropriate repellents and methods of reducing mosquitoes in the home. Fact sheets are available on the NSW Health web site.