

PUBLIC HEALTH REFERENCE SHEET

Chikungunya Virus Disease



Name	Chikungunya (CHIKV)
Reservoir & Transmission	Mosquitoes, namely <i>Aedes aegypti</i> and <i>Aedes albopictus</i> Bite of an infected mosquito; Less commonly, is spread from mother to infant during pregnancy
Incubation Period	3–7 days, range 1–12 days
Common Symptoms	Sudden onset of fever (typically >39°C or 102°F) and bilateral symmetrical joint pain
Gold Standard Diagnostic Test	Testing serum or plasma to detect virus, viral nucleic acid (first 8 days of illness), or virus-specific immunoglobulin (Ig) M and neutralizing antibodies (first 3 days of illness)
Risk Groups	Neonates exposed intrapartum, adults >65 years, and people with underlying medical conditions
Geographic Significance	Most common in Africa, Asia, parts of Central and South America, islands in the Indian Ocean, Western and South Pacific, and Caribbean

What is Chikungunya?

Chikungunya is an infection caused by the chikungunya virus (CHIKV).

What is the occurrence of Chikungunya?

Prior to 2013, chikungunya virus outbreaks had been identified in Africa, Asia, Europe, and the Indian and Pacific Oceans. In late 2013, the first local transmission of chikungunya virus in the Americas was identified in Caribbean countries and territories. Since then, local transmission has been identified in 45 countries and territories throughout the Americas, with more than 1.7 million suspected cases reported to the Pan American Health Organization from affected areas.

How is Chikungunya transmitted?

Chikungunya is primarily transmitted to humans through *Aedes aegypti* and *Aedes albopictus* mosquitoes. Humans are the primary host of chikungunya virus during epidemic periods. Blood-borne transmission is possible; cases have been documented among laboratory personnel handling infected blood and a healthcare worker drawing blood from an infected patient.

The risk of a person transmitting the virus to a biting mosquito or through blood is highest when the patient is viremic during the first week of illness. More rarely, in utero transmission during the second trimester and intrapartum transmission happen when the mother was viremic around the time of delivery. Chikungunya has not been found in breastmilk.

Who is at risk for Chikungunya?

Neonates exposed intrapartum, older adults (e.g., >65 years), and persons with underlying medical conditions (e.g., hypertension, diabetes, or cardiovascular disease) are at risk.

What are the signs and symptoms of Chikungunya?

Most people infected with chikungunya become symptomatic, most often characterized by acute onset of fever (typically >39°C or 102°F) and polyarthralgia. Joint symptoms are usually bilateral and symmetric and can be severe and debilitating. Other symptoms include headache, myalgia, arthritis, conjunctivitis, nausea/vomiting, or maculopapular rash. Clinical laboratory findings can include lymphopenia, thrombocytopenia, elevated creatinine, and elevated hepatic

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transaminases. Approximately 3%–28% of people infected with chikungunya virus will remain asymptomatic. Acute symptoms typically resolve within 7–10 days. Chronic symptoms may persist months to years.

What are potential complications of Chikungunya?

Rare complications include uveitis, retinitis, myocarditis, hepatitis, nephritis, bullous skin lesions, hemorrhage, meningoencephalitis, myelitis, Guillain-Barré syndrome, and cranial nerve palsies. Some patients may have relapse of rheumatologic symptoms (e.g., polyarthralgia, polyarthritis, tenosynovitis) in the months following acute illness. Persistent joint pains may last for months to years. Mortality is rare and occurs mostly in older adults.

How is chikungunya diagnosed?

Chikungunya should be considered in patients with acute onset of fever and polyarthralgia, particularly in travelers who recently returned from areas with known virus transmission.

Preliminary diagnosis is based on the patient's clinical features, places and dates of travel, and activities. Laboratory diagnosis is generally accomplished by testing serum or plasma to detect virus, viral nucleic acid, or virus-specific immunoglobulin M and neutralizing antibodies. Convalescent-phase samples should be obtained from patients whose acute-phase samples test negative.

Co-infections and cross-reactivity are a possibility, as dengue and chikungunya viruses are transmitted by the same mosquitoes and have similar clinical features. The two viruses can circulate in the same area and can cause occasional co-infections in the same patient. Chikungunya virus is more likely to cause high fever, severe arthralgia, arthritis, rash, and lymphopenia, while dengue virus infection is more likely to cause neutropenia, thrombocytopenia, hemorrhage, shock, and death. It is important to rule out dengue virus infection because proper clinical management of dengue can improve outcome.

In addition to dengue, other considerations include leptospirosis, malaria, rickettsia, group A streptococcus, rubella, measles, parovirus, enteroviruses, adenovirus, other alphavirus infections (e.g., Mayaro, Ross River, Barmah Forest, O'nyong-nyong, and Sindbis viruses), post-infections arthritis, and rheumatologic conditions.

How is Chikungunya treated?

There is no specific antiviral therapy for chikungunya virus infection. Supportive treatment for symptoms includes rest, fluids, and use of non-steroidal anti-inflammatory medications (NSAIDs). Those with persistent joint pain may benefit from use of NSAIDs, corticosteroids, or physiotherapy.

How can Chikungunya be prevented?

People infected with Chikungunya should be protected from further mosquito exposure during the first week of illness to reduce the risk of local transmission. In November 2023, the U.S. Food and Drug Administration licensed a vaccine for chikungunya virus for adults aged 18 years and older. An Advisory Committee on Immunization Practices (ACIP) Work Group is reviewing the data on this chikungunya vaccine and considering use of the vaccine in people in the U.S. at risk of chikungunya, including those who travel abroad, laboratory workers working with chikungunya virus, and residents of U.S. states and territories with, or at risk of, transmission. Final recommendations will be posted on CDC's ACIP vaccine website when available.

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What are some public health considerations?

- Document relevant travel and deployment history occurring within the incubation period (3–7 days, range 1–12 days).
- Document the circumstances under which the case patient was exposed including duty exposure, occupational activities, environmental exposures, or other high-risk activities.

References

“Chikungunya,” Centers for Disease Control and Prevention (CDC), last reviewed June 2, 2022.
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