

CHIKUNGUNYA

Information for healthcare providers

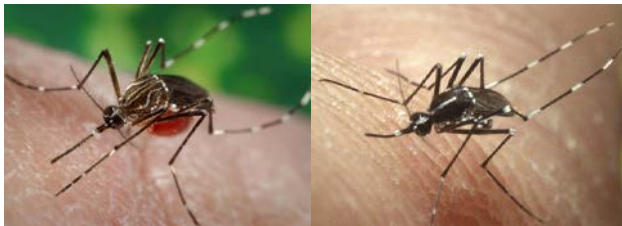
Background

- Mosquito-borne viral disease characterized by acute onset of fever and severe polyarthralgia
- Often occurs as large outbreaks with high attack rates
- Outbreaks have occurred in countries in Africa, Asia, Europe, and the Indian and Pacific Oceans
- In late 2013, first local transmission in the Americas was reported on islands in the Caribbean

Chikungunya virus

- Single-stranded RNA virus
- Genus *Alphavirus*; Family *Togaviridae*

Mosquito vectors



- *Aedes aegypti* and *Aedes albopictus* are the primary vectors (above)
- Both are aggressive daytime biting mosquitoes

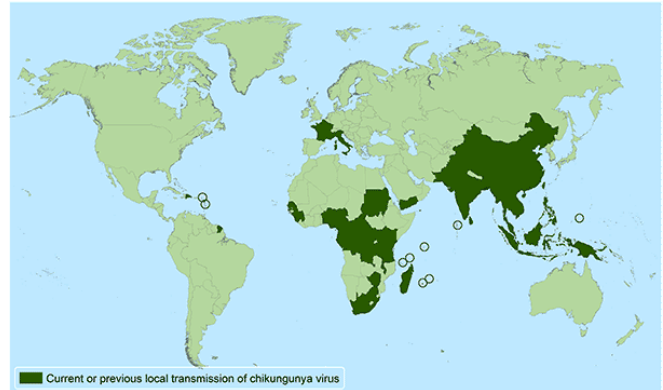
Animal hosts

- Humans are the primary host of chikungunya virus during epidemic periods

Clinical findings

- Majority of infected people become symptomatic
- Incubation period usually 3–7 days (range 1–12 days)
- Acute onset of fever and polyarthralgia are the primary clinical findings
- Joint symptoms usually symmetric and often occur in hands and feet; they can be severe and debilitating
- Other symptoms: Headache, myalgia, arthritis, conjunctivitis, nausea/vomiting, maculopapular rash
- Lymphopenia, thrombocytopenia, elevated creatinine, and elevated hepatic transaminases are the most common clinical laboratory findings

Countries with reported local transmission of chikungunya virus (as of May 2014)



Laboratory testing

- Evaluate serum or plasma by:
 - Viral culture to detect virus in first 3 days of illness
 - RT-PCR to detect viral RNA in first 8 days of illness
 - Serology to detect IgM, IgG, and neutralizing antibodies that develop toward the end of the first week of illness (≥ 4 days post illness onset)
- Chikungunya testing is performed at CDC, several state health departments, and one commercial laboratory
- Contact your state health department for more information and to facilitate testing

Clinical course and outcomes

- Acute symptoms typically resolve within 7–10 days
- Rare complications include uveitis, retinitis, myocarditis, hepatitis, nephritis, bullous skin lesions, hemorrhage, meningoencephalitis, myelitis, Guillain-Barré syndrome, and cranial nerve palsies
- Persons at risk for severe disease include neonates exposed intrapartum, older adults (e.g., > 65 years), and persons with underlying medical conditions (e.g., hypertension, diabetes, or cardiovascular disease)
- Some patients might have relapse of rheumatologic symptoms (e.g., polyarthralgia, polyarthritis, tenosynovitis) in the months following acute illness
- Studies report variable proportions of patients with persistent joint pains for months to years

Chikungunya and dengue

- Difficult to distinguish chikungunya and dengue based on clinical findings alone
- Chikungunya and dengue viruses are transmitted by the same mosquitoes
- The viruses can circulate in the same area and cause occasional co-infections in the same patient
- Chikungunya virus more likely to cause high fever, severe polyarthralgia, arthritis, rash, and lymphopenia
- Dengue virus more likely to cause neutropenia, thrombocytopenia, hemorrhage, shock, and deaths
- Patients with suspected chikungunya should be managed as dengue until dengue has been ruled out
 - Proper clinical management of dengue reduces the risk of medical complications and death
 - Aspirin and other NSAIDs can increase the risk of hemorrhage in patients with dengue

Treatment and clinical management

- No specific antiviral therapy; treatment is symptomatic
- Assess hydration and hemodynamic status and provide supportive care as needed
- Evaluate for other serious conditions (e.g., dengue, malaria, and bacterial infections) and treat or manage appropriately
- Collect specimens for diagnostic testing
- Use acetaminophen or paracetamol for initial fever and pain control
 - If inadequate, consider using narcotics or NSAIDs
 - If the patient may have dengue, do not use aspirin or other NSAIDs (e.g., ibuprofen, naproxen, toradol) until they have been afebrile ≥ 48 hours and have no warning signs for severe dengue*
- Persistent joint pain may benefit from use of NSAIDs, corticosteroids, or physiotherapy

*Warning signs for severe dengue include severe abdominal pain, persistent vomiting, mucosal bleeding, pleural effusion or ascites, lethargy, enlarged liver, and increased hematocrit with decrease in platelet count

Differential diagnosis

- Depends on residence, travel history, and exposures
- Consider dengue, leptospirosis, malaria, rickettsia, group A streptococcus, rubella, measles, parvovirus, enteroviruses, adenovirus, other alphavirus infections (e.g., Mayaro, Ross River, Barmah Forest, O'nyong-nyong, and Sindbis viruses), post-infections arthritis, and rheumatologic conditions

Surveillance and reporting

- Chikungunya virus infection should be considered in patients with acute onset of fever and polyarthralgia, especially travelers who recently returned from areas with known virus transmission
- Healthcare providers are encouraged to report suspected chikungunya cases to their state or local health department to facilitate diagnosis and mitigate the risk of local transmission
- Health departments should perform surveillance for chikungunya cases in returning travelers and be aware of the risk of possible local transmission in areas where *Aedes* species mosquitoes are active
- State health departments are encouraged to report confirmed chikungunya virus infections to CDC

Prevention and control

- No vaccine or medication is available to prevent chikungunya virus infection or disease
- Reduce mosquito exposure
 - Use air conditioning or window/door screens
 - Use mosquito repellents on exposed skin
 - Wear long-sleeved shirts and long pants
 - Wear permethrin-treated clothing
 - Empty standing water from outdoor containers
 - Support local vector control programs
- People suspected to have chikungunya or dengue should be protected from further mosquito exposure during the first week of illness to reduce the risk of local transmission
- People at increased risk for severe disease should consider not traveling to areas with ongoing chikungunya outbreaks

FOR MORE INFORMATION VISIT: www.cdc.gov/chikungunya/