දුරකථන) 0112669192 , 0112675011
தொலைபேசி) 0112694033, 0112675280
Telephone) 0112675449

ෆැක්ස්) 0112693866
பெக்ஸ்) 0112693869
Fax) 0112692913

විද්‍යුත් තැපෑල) postmaster@health.gov.lk
மின்னஞ்சல் முகவரி)
e-mail)

වෙබ් අඩවිය) www.health.gov.lk
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Ministry of Health & Mass Media

Deputy Director General, National Hospital of Sri Lanka / Kandy/ Karapitiya
Directors of Teaching Hospitals/Specialized Hospitals
Directors and Superintendents of Provincial General, District General, and Base Hospitals
Provincial Directors of Health Services
Regional Directors of Health Services
Director Private Health Sector Development
Heads of all other Curative Care Institution

Guideline for Laboratory Diagnosis and Clinical Management of Chikungunya (April, 2025)

Chikungunya is a mosquito-borne viral disease caused by an alphavirus from the Togaviridae family. The disease is characterized by an abrupt onset of fever, severe joint pain, rash, and other systemic symptoms. Following its re-emergence in Sri Lanka in 2006 after several decades of quiescence, chikungunya continues to pose a significant public health threat, particularly during periods of increased vector activity. Given the potential for outbreaks and the need for timely detection, and response, this circular outlines the key clinical, diagnostic, and management measures to be followed by all relevant healthcare and public health staff.

Target Audience: These guidelines are designed primarily for healthcare providers who manage patients with clinically apparent arboviral infections. The guidelines are applicable at all levels of the health system, including primary care, outpatient care, hospital wards and emergency departments.

1. Case Definition

Suspected Case: A patient presenting with acute onset fever (lasting 3–5 days), often with chills/rigors, and accompanied by multiple joint pains or extremity swelling, which may persist for weeks to months.

Probable Case: A suspected case with any of the following:

a) History of travel to or residence in areas with reported Chikungunya outbreaks.
b) Exclusion of malaria, dengue, or other known causes of fever with joint pains.
c) Presence of post-infection hyper pigmented rash.

Confirmed Case: A patient with one or more of the following findings, regardless of clinical presentation:

a) Virus isolation in cell culture or animal inoculations from acute-phase serum.
b) Detection of viral RNA in acute-phase serum.
c) Seroconversion to virus-specific antibodies in paired samples collected 1–3 weeks apart.
d) Detection of virus-specific IgM antibodies in a single serum sample collected after 7 days of illness onset.

2. Laboratory Diagnosis

Due to the non-specific clinical features shared among Aedes-borne arboviral infections such as dengue and Zika, laboratory confirmation is essential to accurately differentiate Chikungunya from other similar illnesses. Clinical management often relies on prevailing epidemiology in settings where diagnostic capacity is limited.

Laboratory findings commonly observed in Chikungunya infection include:

1. Mild leukopenia with relative lymphocytosis.
2. Elevated ESR, typically between 20–50 mm/h.
3. Positive C - reactive protein levels.
4. Decreased platelet count, often accompanied by hemorrhagic manifestations.
5. ECG changes indicative of myocarditis.

Specific Diagnostic Tests

1. Virological Testing (RT-PCR)

- Detects viral RNA during the acute phase (first week).
- Preferred sample: Serum; other options include whole blood, CSF (in neurological involvement), and tissues (in fatal cases).
- RNA detectable up to 7 days of symptom onset.
- Gold standard for early diagnosis.

2. Serological Testing (ELISA IgM, IgG)

- Sample: Serum
- Detects recent or past infection once RNA is no longer detectable/ after 7 days
- IgM detection alone is not definitive; paired acute and convalescent samples are preferred.
- IgG detection may indicate current/past infection.

Time since symptom onset	Preferred test	Sample
0–7 days	RT-PCR (molecular)	Serum
>7 days	IgM/IgG (serology)	Serum

Chikungunya-specific IgM antibody testing is available at the Medical Research Institute (MRI), Colombo. During an epidemic, confirmatory tests may not be required if an epidemiological link is established.

3. Clinical Management

There is no specific antiviral treatment for chikungunya. Management focuses on relieving symptoms:

Symptomatic and supportive care

- Rest: Adequate rest is essential during the febrile and post-febrile phases.
- Fever and pain relief:
    - Use Paracetamol: Adults >50 kg; 500 mg every 4-6 hours (maximum daily dose: 4 g), Pediatrics 10 -15 mg/kg every 6 hours (maximum daily dose: 60 mg/kg)
    - It is extremely important not to use NSAIDs (e.g., ibuprofen) during the acute febrile phase until dengue illness is sufficiently excluded. **As Chikungunya and dengue viruses can co-exist.**
- Hydration: Encourage Oral Rehydration Solution (ORS) and increased oral fluid intake to prevent dehydration.
- Joint symptoms:
    - In the post-acute phase (beyond 10 days and fever free), NSAIDs may be considered **after excluding dengue**, particularly in patients with persistent inflammatory arthralgia. Chikungunya often results in inflammatory arthritis or arthralgia, which may respond well to a short course of NSAIDs.
    - Use of dengue diagnostics (FBC, NS1 antigen, IgM/IgG tests) is encouraged where available to exclude dengue prior to treatment with NSAIDs.
    - Chronic arthritis may benefit from physiotherapy and referral to a specialist for persistent pain management.

Hospitalization may be required if:

- Dehydration or persistent vomiting occurs.
- Severe arthralgia impairs mobility.
- Suspected co-infection with dengue or other complications/ comorbidities.
- High risk groups: Pregnant women, neonates, infants, elderly (>65 years), those with comorbidities should be reviewed early by a specialist for further care.

4. Patient Follow-Up

- Joint pain and stiffness may persist for weeks to months.
- Follow-up visits are recommended for monitoring chronic symptoms and providing specialized review and management

5. Case Notification

- Strengthen surveillance systems for timely case detection, reporting, outbreak investigation, and monitoring of disease trends and mortality.
- All healthcare providers are advised to inform suspected cases using Form H544 to the relevant MOH office to enable prompt initiation of preventive and control measures.

Patient Education:

- Treating physicians should educate patients on the breeding sites and feeding habits of *Aedes* mosquitoes, which are responsible for transmitting the Chikungunya virus within the community.
- Patients presenting with fever and suspected Chikungunya infection should be advised to use only paracetamol for symptom relief. If joint pain persists, they should seek further medical care.
- Role of the community in prevention and control:

✓ Encourage the elimination of all potential mosquito breeding sites such as stagnant water in containers, discarded tires, flowerpots, and clogged gutters.
✓ Patients should avoid mosquito bites, especially during the first week of illness, to reduce the risk of virus transmission to others.
✓ Repellence applied to exposed skin or to clothing may also provide additional benefit to keep the mosquitoes away. (Use of chemical repellents to protect infants and children < 2years of age is not advisable).

Please bring the contents of this letter to the attention of relevant officers in your institution/ province/ district.

Dr. ASELA GUNAWARDENA
Director General of Health Services
Ministry of Health
"Suwasiripaya"
385, Rev. Baddegama Wimalawansa Thero Mawatha,
Colombo 10.

Dr. Asela Gunawardena
Director General of Health Services

Cc: Secretary, Ministry of Health
Additional Secretary – PHS
Additional Secretary – MS
DDG (PHS) I & II
DDG (MS) I & II
DDG/Laboratory Services
Chief Epidemiologist
Director/ National Dengue Control Unit
Director/Medical Research Institute
All Provincial Epidemiologists
All Regional Epidemiologists
All Medical Officer - Epidemiology
All Medical Officers of Health (MOH)