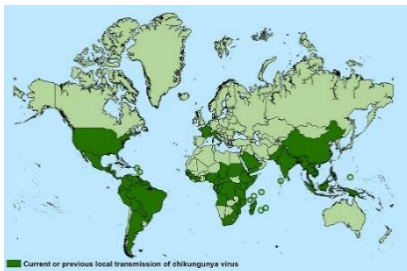




CHIKUNGUNYA VIRUS

The disease

- Chikungunya is a viral disease that is transmitted to people by mosquitoes
- The name “chikungunya” derives from a word in the Kimakonde language, meaning “to become contorted”, describing the stooped appearance of sufferers with joint pain
- It has occurred in Africa, Southern Europe, Southeast Asia, islands in the Indian and Pacific Oceans, Latin America and southern USA.
- Countries and territories where chikungunya cases have been reported (as of October, 2020)



Current or previous local transmission of chikungunya virus

Laboratory investigation

- The laboratory diagnosis of chikungunya is based primarily on the detection of antibodies by haemagglutination inhibition assay or ELISA in serum
- The detection of IgM antibodies or IgG seroconversion between paired samples which have been taken two weeks apart, indicates recent infection
- IgM antibody levels are highest 3-5 weeks after the onset of illness and persist for about 2 months
- If serum is collected within 8 days of illness onset, the absence of detectable virus-specific IgM does not rule out a diagnosis, and the test may need to be repeated on a later sample
- Reverse transcription polymerase chain reaction (RT-PCR) and virus isolation from a serum collected early in the course of illness are additional tests that may be useful
- All samples submitted to the laboratory should include a completed case investigation form

More information on arboviral disease:

www.nicd.ac.za under the ‘Diseases A-Z’ tab

www.cdc.gov/chikungunya

www.who.int/news-room/fact-sheets/detail/chikungunya

The mosquitoes

- *Aedes* species mosquitoes transmit chikungunya virus
- These same mosquitoes transmit dengue and Zika virus
- These mosquitoes bite mostly during the daytime

Symptoms

- Symptoms usually begin 3-7 days after being bitten by an infected mosquito
- The most common symptoms are fever and severe joint pains, often in the hands and feet
- Other symptoms may include headache, muscle pain, joint swelling or rash

Treatment and vaccines

- There is no antiviral medicine to treat chikungunya fever
- Currently there are no approved vaccines for human use
- Many cases require no treatment
- Symptomatic support such as pain and fever relief is often prescribed

Illness course and outcomes

- Incubation period of 3-7 days
- Most patients feel better within a week (range 2-12 days)
- Some people may develop longer-term joint pain
- People at increased risk for severe disease include new-borns exposed during delivery, older adults (≥ 65 years), and people with medical conditions such as high blood pressure, diabetes or heart disease
- Deaths are rare

Prevention

USE INSECT REPELLANT

- Use DEET-containing insect repellents as directed by the manufacturer
- Reapply during the day as needed

WEAR LONG-SLEEVED SHIRTS AND PANTS

- Consider wearing long-sleeved, loose fitting shirts and pants when outdoors and likely to encounter mosquitoes
- When camping or similar activities consider using permethrin treated gear and clothing

KEEP YOUR SURROUNDS MOSQUITO-FREE

- Screen windows and doors
- Reduce mosquito breeding grounds. Mosquitoes lay eggs in and around water. Minimize the amount of standing water in and around the house – for example pots and other containers that contain stagnant water



Who should be tested for Chikungunya virus?

Persons presenting with rash, fever, headache, arthralgia / myalgia or joint swelling

AND

Recent/history of mosquito bites

Laboratory testing offered by NICD

- RT-PCR testing and virus culture (clotted blood/serum) are useful during the transient viraemic stage of infection (<7 days post symptom onset). *A negative RT-PCR / viral culture does not exclude recent infection.*
- Paired serological testing (clotted blood/serum taken up to 14 days apart). A haemagglutination test (HAI) and Chikungunya virus specific IgM or IgG ELISA is available. Serology is limited by cross-reactivity with other alphaviruses therefore paired serological testing is essential. *Specimens submitted for Chikungunya virus will also be tested for other arboviruses because of overlapping clinical presentations*
- Serology for Chikungunya virus may not provide conclusive results
- Chikungunya virus is a category 3 notifiable medical condition (www.nicd.ac.za/wp-content/uploads/2017/06/SOP-Notifiable-Medical-Conditions_-notification-procedures_v2Jan2018final-Copy.pdf)

Procedures to follow when submitting specimens for chikungunya virus testing to the NICD

- Collect blood in a red (clotted blood) or yellow top (serum) tube
- Complete arbovirus case investigation form available on <https://www.nicd.ac.za/diseases-a-z-index/arbovirus/>
- Submit the specimen to the Arbovirus Reference Laboratory, Centre for Emerging Zoonotic and Parasitic Diseases, National Institute for Communicable Diseases for testing
- Samples should be kept cold (on ice packs or cold packs) during transport
- Chikungunya virus testing will be done during office hours, for additional information contact the laboratory at 011 386 6424 / 082 903 9131 or cezd@nicd.ac.za
- If the patient is unstable, arrange urgent testing with the NICD Hotline 082 883 9920
- Submission of convalescent specimens is highly recommended to facilitate interpretation of serological assays

