

Dengue and Chikungunya Virus Testing and Reporting Guidance

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WHEN TO CONSIDER TESTING

Consider dengue and/or chikungunya testing for patients with an acute febrile illness and recent travel (within 2 weeks of illness onset) to an endemic area. Refer to the Centers for Disease Control and Prevention for current information on areas where [dengue](#) and [chikungunya](#) viruses circulate.

Locally acquired dengue and chikungunya are uncommon but possible in the continental U.S., particularly in southern states.

DENGUE: Fever, especially if accompanied by headache, myalgias, arthralgias, retro-orbital pain, anorexia, nausea, or rash. Some patients go on to develop hemorrhagic manifestations such as petechiae, epistaxis, gingival bleeding, and hematuria. Warning signs include severe abdominal pain, persistent vomiting, marked change in temperature, change in mental status, or early signs of shock.

CHIKUNGUNYA: Fever, especially if accompanied by polyarthralgia (usually bilateral and mainly involving the distal joints of extremities). Other symptoms may include headache, myalgia, conjunctivitis, nausea/vomiting, or maculopapular rash.

DIAGNOSTIC TESTS

For acute disease, clinicians should order NS1 or PCR *and* IgM for dengue; and PCR *and* IgM for chikungunya.

- PCR to detect dengue and chikungunya viral RNA and dengue NS1 antigen detection tests are most sensitive on serum collected early in the course of illness.
- IgM serology by immunoassay to detect antibodies is most sensitive on serum collected near the end of the first week of illness. IgM antibodies can be reliably detected for 3 months or longer after infection.
 - Positive IgG without a positive IgM is consistent with past infection.
 - If IgM is negative and specimen was collected within the first week of illness, consider repeat testing.

Preferred testing options for dengue* and chikungunya** based on timing of serum specimen collection				
Diagnostic Test	≤7 days after illness onset	>7 days after illness onset	Dengue Testing Laboratories	Chikungunya Testing Laboratories
IgM Immunoassay	+	+	ARUP , Eurofins-Viracor , Mayo Clinic , Quest	ARUP, Mayo Clinic, Quest
PCR	+	+/-		
Dengue NS1	+	+/-	Eurofins-Viracor, Quest	N/A

*For dengue, the IgM immunoassay may be used for specimens collected on day 6 or more after illness onset. Specimens collected more than 7 days after illness are less likely to be positive by PCR or dengue NS1.

**For chikungunya, PCR may detect viral RNA up to day 8 after illness onset, and the IgM immunoassay may be used for specimens collected on day 4 or more after onset.

Public Health Laboratory Testing - For select cases, special testing can be performed by public health laboratories including the [NYC Public Health Laboratories](#), [New York State Wadsworth Center](#), and Centers for Disease Control and Prevention (CDC). For more information or assistance, contact the Bureau of Communicable Disease by calling the Provider Access Line (PAL) at 866-692-3641.

REPORTING

Dengue, chikungunya, and other laboratory-diagnosed arboviral infections are reportable to the Health Department.

- Report online to the Bureau of Communicable Disease via NYC DOHMH's [Reporting Central page](#) (login or sign up for NYCMED account to access Reporting Central).
- Download the *Universal Reporting Form*: nyc.gov/assets/doh/downloads/pdf/hcp/urf-0803.pdf and fax to the Bureau of Communicable Disease at 347-396-8991.
- Call the Provider Access Line (PAL) at 866-692-3641.

QUESTIONS?

During regular business hours, for questions, or to report a cluster of cases or an individual urgent case, such as a suspected dengue virus case due to transfusion or organ transplantation, contact:

- NYC DOHMH Bureau of Communicable Disease by calling the Provider Access Line (PAL) at 866-692-3641.
- After hours, call the New York City Poison Control Center at 212-POISONS (212-764-7667) or 1-800-222-1222 and ask for the doctor on call.