



DEPARTMENT OF HEALTH AND HUMAN SERVICES
DIVISION OF PUBLIC HEALTH

ROY COOPER
GOVERNOR

MANDY COHEN, MD, MPH
SECRETARY

DANIEL STALEY
DIRECTOR

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To: North Carolina Local Health Directors
North Carolina Health Care Providers

From: Zack Moore, MD, MPH, State Epidemiologist
Scott Zimmerman, DrPH, MPH, HCLD (ABB), Director, State Laboratory of Public Health

Subject: Updated CDC guidelines for Zika virus testing and modification in procedures for Zika virus testing
at the North Carolina State Laboratory of Public Health (2 pages)

This memo is intended to highlight the updated CDC guidance on Zika virus testing and to provide new information on procedures for submission of samples for Zika virus testing at the North Carolina State Laboratory of Public Health (NCSLPH). Suspected or confirmed Zika virus infection is a reportable condition in North Carolina. Please contact the Communicable Disease Branch at (919) 733-3419 or your local health department if Zika virus infection is suspected and for questions related to the Zika Pregnancy Registry.

Zika virus infection during pregnancy can cause microcephaly and other major brain and neurologic abnormalities, and it has been linked to a number of other adverse pregnancy outcomes such as miscarriage and intrauterine growth restriction. To date, all reported cases of Zika virus infection in North Carolina have been travel-associated.

Persistence of Zika IgM: CDC Health Alert Notice

CDC most recently published Zika virus testing guidance in July 2016. Those recommendations called for Zika IgM (immunoglobulin M) testing two to twelve weeks after possible exposure.

(<https://www.cdc.gov/mmwr/volumes/65/wr/mm6529e1.htm>)

On May 5, 2017, the CDC issued a Health Alert Notice (HAN) with updated guidance for healthcare providers in evaluating asymptomatic pregnant women with possible ongoing risk for Zika virus exposure. This change was made in response to new epidemiological and laboratory data that suggest Zika virus infection may result in prolonged IgM response and therefore, IgM detection may not always indicate a recent infection. Please refer to When to Test for additional information. (<https://emergency.cdc.gov/han/han00402.asp>)

Who to Test

Zika virus testing is currently recommended for the following individuals:

Pregnant Women

- Who are asymptomatic and live in or traveled to an area with Zika or had unprotected sex with a partner who lives in or traveled to an area with active Zika virus transmission, *or*
- Who have symptoms consistent of Zika virus infection.

Non-pregnant Women

- Who live in or traveled to an area with Zika or had unprotected sex with a partner who lives in or traveled to an area with active Zika virus transmission, *and*
- Who have symptoms consistent of Zika virus infection.

Men

- Who live in or traveled to an area with Zika or had unprotected sex with a partner who lives in or traveled to an area with active Zika virus transmission, *and*
- Who have symptoms consistent of Zika virus infection.

When to Test

For asymptomatic pregnant women who are evaluated <2 weeks after last possible exposure and live in areas without active Zika virus transmission, rRT-PCR testing should be conducted; if rRT-PCR result is negative, Zika virus IgM antibody test should be performed 2-12 weeks after last possible exposure.

For asymptomatic pregnant women who live in areas without active Zika virus transmission and are evaluated between 2 and 12 weeks after last possible exposure, IgM antibody test should be performed first; if the IgM antibody test result is presumptive positive, equivocal, or inconclusive, plaque reduction neutralization testing (PRNT) is recommended.

For evaluating asymptomatic pregnant women with ongoing risk for Zika virus exposure, i.e. living in or frequently traveling to areas with Zika virus transmission, the most recent CDC HAN recommends healthcare providers to consider rRT-PCR at least once per trimester, unless a previous test has been positive, in addition to IgM testing as previously recommended (<https://www.cdc.gov/mmwr/volumes/65/wr/mm6529e1.htm>)

Symptomatic individuals who are evaluated <2 weeks after symptom onset should have their serum and urine/whole blood tested with Zika virus rRT-PCR. Those who are evaluated between 2 and 12 weeks after symptom onset should first be tested with a Zika virus IgM test. If the IgM antibody test result is presumptive positive, equivocal, or inconclusive, PRNT is recommended.

Where to Test

Zika virus rRT-PCR and IgM tests are available through NCSLPH and private/commercial laboratories. Effective June 1, 2017, pre-approval by the Communicable Disease Branch is no longer required for Zika virus tests performed at NCSLPH. Healthcare providers who wish to utilize NCSLPH for Zika virus testing must note that NCSLPH only performs testing of patients meeting the criteria specified above. To assure compliance with this requirement, healthcare providers must complete and sign the Physician Attestation statement at the bottom of the new DHHS #3445-Special Serology form when submitting specimens for Zika testing. (<http://slph.state.nc.us/zika/default.asp>)

Reporting

Per 10A NCAC 41A.0101, suspected or confirmed Zika virus infection is declared to be dangerous to public health in North Carolina and is made reportable within 24 hours. Please contact the Communicable Disease Branch at (919) 733-3419 if Zika virus infection is suspected or confirmed in a patient or if fetal ultrasound shows abnormalities such as microcephaly or other patterns of birth defects that are consistent with congenital Zika syndrome and the pregnant patient has had potential exposure to Zika virus.