IDAHO DEPARTMENT OF HEALTH & WELFARE
DIVISION OF PUBLIC HEALTH

Disease Bulletin

Timing Matters: Zika virus testing of Idahoans

Recommendation Against Nasal Spray Fu Vaccine For 2016-2017 Season

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Timing Matters: Zika virus testing of Idahoans

During December 31, 2015–August 2, 2016 the Idaho Bureau of Laboratories (IBL), Division of Public Health, logged in specimens from 127 persons for Zika virus testing. Among these persons, 81 (64%) were asymptomatic, 109 (87%) were female, and 84 (77%) of females were reported to be pregnant. Results on 93 patients are available. Two cases of Zika virus infection, both associated with travel to areas of active transmission outside the United States, have been reported in Idaho.

In mid-April 2016, IBL implemented use of the Trioplex Real-time reverse transcriptase polymerase chain reaction (rRT-PCR) RNA amplification assay for the identification of Zika, dengue, and chikungunya viruses in serum, and Zika virus in urine and amniotic fluid, under an emergency use authorization (EUA) from the US Food and Drug Administration. RNA amplification assays should be requested for potentially exposed persons experiencing symptoms of Zika virus infection within the last two weeks (see Figure 1 for details). Recommendations for use of RNA amplification assays in pregnant women were expanded on July 25.[1] Under the EUA for the Trioplex rRT-PCR, any urine sample submitted for testing MUST be accompanied by a patient-matched serum sample.[2] Positive results are indicative of current infection. Negative results do not rule out dengue, chikungunya, or Zika virus infections, but must be combined with clinical observation, patient history, and epidemiological information for patient management decisions. Specimens from symptomatic patients with travel history to an area with active transmission that are negative for Zika virus by an RNA amplification assay should undergo antibody testing for Zika virus and other flaviviruses to which the patient might have been exposed[3]; however, because few commercial laboratories offer Zika antibody testing, the Centers for Disease Control and Prevention (CDC) recommends ordering that the laboratory draw an additional amount of blood and retain an aliquot of the original specimen for submission to IBL for Zika antibody testing.[4] Collection of additional samples for Zika antibody testing should be considered.

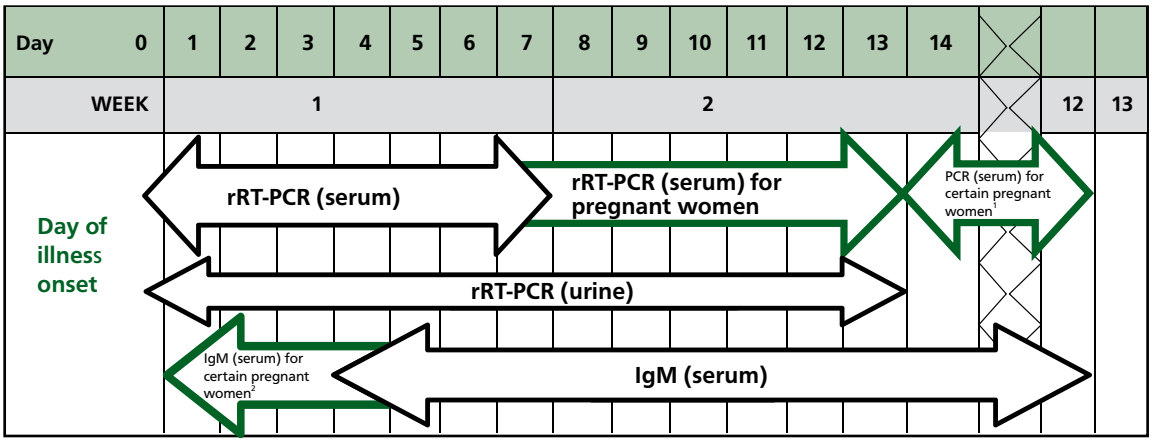
Testing for IgM antibody to Zika virus may be offered for persons who experienced symptoms of Zika virus disease and for those who never became ill (Figures 1 and 2). If the Zika IgM enzyme-linked immunosorbent assay (ELISA) result is positive or equivocal, confirmatory testing will be done using plaque reduction neutralization (PRNT). Zika virus antibody testing for Idaho has been performed by the CDC. Because of shipping time and a high volume of samples, it can take up to 50 days for results from CDC to be finalized. IBL may be performing the Zika IgM ELISA soon; however, specimens will still be sent to CDC for PRNT.

In an initial evaluation of specimens received from December 31, 2015 – July 24, 2016, we observed that 34.5% of specimens submitted by Idaho healthcare providers for Zika virus testing in returning travelers were collected outside the time frames then recommended by CDC. Failure to collect specimens within the recommended time frame severely diminishes the ability of the tests to detect evidence of Zika virus infection.[5] IBL also continues to receive specimens collected from persons for whom testing is not indicated by CDC. CDC may refuse to test inappropriately collected specimens. Please consult Figures 1 and 2, and "Idaho Public Health Guidance for Zika Virus Testing" at www.epi.idaho.gov before collecting and submitting specimens for Zika virus testing. Because this document is updated as CDC guidance changes, please check to be sure you are referencing the most recent version posted online.

IBL continues to receive incomplete Zika test request forms (CDC Form 50.34 for Idaho) with patient specimens. If the test request form is incomplete, specimens will NOT be processed for testing until missing information is obtained. A local Public Health District epidemiologist will contact the provider's office to obtain the required information and test results will be delayed. Please ensure that staff follow instructions posted at www.epi.idaho.gov and on the IBL website www.statelab.idaho.gov to complete the Zika test request form. Required information most commonly missing is characterization of patient as asymptomatic, pregnancy status, a description of symptoms and onset date if the patient was symptomatic, history of previous flavivirus infection, and travel dates and locations.

ZIKA VIRUS CONTINUED ON PAGE TWO

Figure 1. Timing of appropriate tests for Zika virus infection in persons who had compatible illness.



[1]Those who seek care 2–12 weeks after symptom onset and IgM antibody testing result is positive or equivocal. [2]Those who have negative rRT-PCR should receive both Zika virus IgM and dengue virus IgM antibody testing. Note: a transcription-mediated amplification (TMA) assay for Zika virus RNA for serum and plasma is also available.

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Recommendation Against Nasal Spray Flu Vaccine for 2016-2017 Flu Season

On June 22, 2016, the Centers for Disease Control and Prevention's (CDC) Advisory Committee on Immunization Practices (ACIP) voted in favor of an interim recommendation that live attenuated influenza vaccine (LAIV), commonly known as the "nasal spray" flu vaccine or FluMist®, should not be used during the 2016-2017 influenza season (http://www.cdc.gov/flu/about/season/flu-season-2016-2017.htm). ACIP also passed a resolution to remove the vaccine from the federal Vaccines for Children (VFC) program. Despite this vote to recommend against the use of LAIV, the ACIP continues to recommend annual flu vaccination, with either the inactivated flu vaccine or recombinant flu vaccine for everyone six months of age and older. The inactivated flu vaccine and recombinant flu vaccine are only available to patients via an injection.

The ACIP vote follows their analysis of data that showed poor or relatively lower effectiveness of LAIV from 2013 through 2016 compared with other formulations. Even though the data show that LAIV was not completely effective in the recent past, the injectable flu shots performed very well last season, offering substantial protection against influenza. The recommendations made were not based on safety concerns, but rather the LAIV's apparent ineffectiveness at preventing certain strains of flu. It is important to note that only 8% of all flu vaccine produced nationwide is LAIV, so replacing it with other types of flu vaccine is not expected to lead to shortages. Although it is disappointing that LAIV is not recommended this flu season, it is encouraging to know in-depth analysis of flu vaccine effectiveness is ongoing and that other options are available.

For those provider offices that privately ordered any doses of LAIV, the Idaho Division of Public Health recommends that they contact their vaccine distributor so that order modifications can be made, well in advance of the flu season.

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If you have Zika testing questions, please contact IBL at (208) 334-0589, your local Public Health District, or the Bureau of Communicable Disease Prevention Epidemiology Program. See http://www.cdc.gov/zika/hc-providers/index.html for more information.

References

[1] CDC. Update: Interim Guidance for Health Care Providers Caring for Pregnant Women with Possible Zika Virus Exposure — United States, July 2016. MMWR Morb Mortal Wkly Rep 2016;65:739-744. DOI: http://dx.doi.org/10.15585/mmwr.mm6529e1.

[2] CDC. Diagnostic Testing of Urine Specimens for Suspected Zika Virus Infection. Distributed via the CDC Health Alert Network, May 25, 2016. CDCHAN-00389. http://emergency.cdc.gov/han/han00389.asp

[3] CDC. Revised diagnostic testing for Zika, chikungunya, and dengue viruses in US Public Health Laboratories. Memo from CDC, Division of Vector-Borne Diseases, February 7, 2016. http://www.cdc.gov/zika/pdfs/denvchikvzikv-testing-algorithm.pdf

[4] CDC. CDC Recommendations for Subsequent Zika IgM Antibody Testing. Distributed via the CDC Health Alert Network, June 21, 2016. CDCHAN-00392. http://emergency.cdc.gov/han/han00392.asp

Figure 2. Timing of appropriate tests for Zika virus infection in persons with no history of acute illness.