

ZIKA AND OTHER TRAVEL- ASSOCIATED ARBOVIRAL DISEASES SCREENING AND EVALUATION GUIDANCE

These documents outline the criteria and steps for testing patients for Zika virus in Oklahoma. Clinicians are advised to complete the attached *Zika and Other Travel-Associated Arboviral Diseases Screening Form* to collect information required by the Acute Disease Service (ADS) of the Oklahoma State Department of Health (OSDH) to confirm the patient meets the following testing criteria.

If a patient meeting the criteria below is seen during non-business hours, specimens can be collected and held refrigerated until the next business day when an OSDH ADS Epidemiologist is available for consultation and submission approval. If the patient is part of a suspected outbreak, or suspected local transmission event, please contact the ADS Epi-on-Call immediately at (405) 271-4060 (available 24/7/365).

ACTIONS REQUESTED OF CLINICIANS: If patient meets one of the two criteria below, please:

1. Fill out the screening form.
2. Fax it to ADS (F: 405-271-6680).
3. Call the Epidemiologist-On-Call (P: 405-271-4060) to consult and obtain the required pre-approval for testing.
4. If patient is approved for testing, complete the attached OSDH Public Health Lab requisition form for each specimen. This form is required to be submitted with each specimen collected for testing at the Public Health Lab.

❖ Symptomatic with travel history or concern for sexual or other routes of transmission:

- ◆ Two or more of the following symptoms: acute fever, rash, arthralgia, conjunctivitis

AND

- ◆ Travel to a Zika-affected area within 2 weeks prior to symptom onset. Countries or areas within the continental U.S. at risk for Zika transmission can be determined by accessing the following website:

<http://wwwnc.cdc.gov/travel/page/zika-travel-information>

OR

- ◆ Concern for sexual transmission (*Reports unprotected sex with partner(s) who traveled to a Zika-affected area. Specimen must be collected within 12 weeks after partner's departure from a Zika-affected country in order to be eligible for testing.*)

OR

- ◆ Congenital exposure (*mother to fetus*)

AND

- ◆ Collect urine and serum specimens within 12 weeks of travel (*Additional specimens may be requested during consultation with ADS Epidemiologist.*)

❖ Asymptomatic pregnant woman with travel history:

- ◆ Asymptomatic pregnant woman

AND

- ◆ Travel to a Zika-affected area while pregnant

AND

- ◆ Collect urine and serum specimens within 2 - 12 weeks after returning from travel (*Additional specimens may be requested during consultation with ADS Epidemiologist.*)
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Additional testing for other arboviral diseases may be conducted based on type of symptoms, symptom onset and date of specimen collection for symptomatic individuals. In some instances, a convalescent specimen may be recommended for additional testing. For specific questions regarding appropriate specimen collection, refer to "Zika and Other Travel-Associated Arboviral Diseases Laboratory Testing Guidance" or contact the Public Health Laboratory at (405) 271-5070.

ZIKA AND OTHER TRAVEL-ASSOCIATED ARBOVIRAL DISEASES SCREENING FORM

Please complete all sections of the form, fax to the Acute Disease Service (ADS), F:(405) 271-6680, and then call the ADS Epidemiologist-on-Call at (405) 271-4060 prior to specimen collection and submission.

Patient Information

Last Name: _____ First Name: _____ MI: _____
Date of Birth: ____/____/____ Sex: Male Female
Address: _____ City: _____ County: _____ State: ____ Zip: _____
Primary contact number: _____ Secondary contact number: _____
Race: White Black Native America Asian Native Hawaiian/Pacific Islander Asian
 Unknown Other _____
Ethnicity: Hispanic Non-Hispanic Unknown Preferred Language: _____ Interpreter needed

Healthcare Provider Information

Name of Reporting Person: _____
Ordering Physician: _____
Work Phone: _____ Fax Number: _____ Organization: _____
Address: _____
City: _____ State: _____ Zip Code: _____

Symptom Information

Did patient have two or more of the symptoms below? Yes No (If yes, complete symptom information below.)
❖ If no, is the patient pregnant? Yes No (If yes, skip to exposure assessment. If no, testing not indicated.)

Symptom Onset date: ____/____/____

Fever (subjective OR measured) Yes No Unknown

If yes, max temp: _____

Rash Yes No Unknown

Rash description: Petechial Macular Vesicular

Conjunctivitis Yes No Unknown

Arthralgia Yes No Unknown

Was the patient hospitalized? Yes No Unknown

Hospital name: _____ Admit Date: ____/____/____ Discharge Date: ____/____/____

Exposure Assessment

If symptomatic:

Within 14 days before symptom onset, did the patient travel in an area in which Zika virus is present?

Yes No (If yes, please list patient's travel details on the following page.)

- If no, did the patient report unprotected sex with their sexual partner following their return from a Zika-affected country? Yes No (If yes, please list partner's travel details on the following page.)

If asymptomatic and pregnant:

Did the patient travel in an area in which Zika virus is present during the previous two to 12 weeks while pregnant?

Yes No (If yes, please list patient's travel details on the following page.)



Acute Disease Service
Oklahoma State
Department of Health

Phone: (405) 271-4060
Fax: (405) 271-6680
Website: <http://ads.health.ok.gov>

ZIKA AND OTHER TRAVEL-ASSOCIATED ARBOVIRAL DISEASES SCREENING FORM

Exposure Assessment (Continued)

Refer to CDC Zika Travelers Advisory page for list of countries: <http://wwwnc.cdc.gov/travel/page/zika-travel-information>

If yes, list which countries and regions/areas/cities visited, and dates of travel:

1) Country: _____
 Date Arrived in Country: ____/____/____ Date Departed Country: ____/____/____
 Regions/areas/cities visited: _____

2) Country: _____
 Date Arrived in Country: ____/____/____ Date Departed Country: ____/____/____
 Regions/areas/cities visited: _____

❖ Was the patient pregnant at the time of travel? Yes No

If yes, number of gestational weeks at the time of travel: _____ weeks

If yes, is the patient still pregnant? Yes No

If the patient is no longer pregnant, indicate outcome of pregnancy: Live birth Fetal loss Elective termination
If live birth, what was date of delivery and facility of delivery:

❖ Did the patient become pregnant within approx. 2 weeks after returning from a Zika affected country or region?
 Yes No

❖ Has the patient ever been vaccinated for Yellow Fever or Japanese encephalitis? Yes No Unknown

❖ Has the patient previously been diagnosed with Dengue, Chikungunya, Yellow Fever, or West Nile virus?
 Yes No Unknown **If yes**, specify disease and year: _____

❖ Has the patient been tested for other etiologies for the current illness? Yes No Unknown

<input type="checkbox"/> Chikungunya	Lab name: _____	Date of test ____/____/____	Result: _____
<input type="checkbox"/> Dengue	Lab name: _____	Date of test ____/____/____	Result: _____
<input type="checkbox"/> West Nile Virus	Lab name: _____	Date of test ____/____/____	Result: _____
<input type="checkbox"/> Other	Lab name: _____	Date of test ____/____/____	Result: _____

FOR INTERNAL USE ONLY:

<input type="checkbox"/> Symptomatic <input type="checkbox"/> Asymptomatic	<input type="checkbox"/> Pregnant <input type="checkbox"/> Not Pregnant	<input type="checkbox"/> Specimen < 14 days from symptom onset or exposure <input type="checkbox"/> Specimen ≥ 14 days and < 12 weeks from symptom onset or exposure
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Zika and Other Travel-Associated Arboviral Diseases Laboratory Testing Guidance

Zika virus testing is performed by the Oklahoma State Department of Health (OSDH) Public Health Laboratory (PHL). However, prior to specimen collection/submission, an Epidemiologist from the OSDH Acute Disease Service (ADS) must gather pertinent clinical signs and symptoms, travel, and other epidemiologic information from the clinician to determine if a patient meets the required criteria for Zika virus testing as indicated by the Centers for Disease Control and Prevention (CDC). All specimens must be approved by the ADS prior to shipping to the OSDH PHL for testing.

The OSDH PHL is a CDC-designated laboratory that performs Zika virus testing by Emergency Use Authorization using the CDC Zika IgM Antibody Capture (MAC) ELISA and the CDC Trioplex Real-time RT-PCR Assay. Specimens may be referred by the OSDH PHL to the CDC or other laboratories for additional testing, as indicated.

For questions concerning Zika testing criteria, contact the **OSDH ADS Epidemiologist-on-Call at (405) 271-4060**.

For questions regarding specimen collection, storage, transport, and lab requisition forms, contact the **OSDH PHL Client Services at (405) 271-5070**.

*Please, note that an **OSDH PHL Test Requisition Form** **must be submitted with each specimen type**. If the form is not completed appropriately, or is not received, testing may be canceled or significantly delayed.*

- ❖ **Urine and serum are the preferred specimen types and are required for each individual approved for testing. Additional specimens may be recommended during consultation with an ADS Epidemiologist.**

Specimen Collection, Storage, and Shipping:

- **Whole blood** in serum separator tube (SST) (a.k.a., tiger-top tube)
 - Following collection, gently invert SST no more than 8 times then allow blood to clot in upright position for at least 30 mins and no more than 60 mins then centrifuge at 3000 rpm for 10 mins.
 - ≥ 2.0 mL (minimum) required; collect additional tubes to meet volume requirements, as needed.
 - Store refrigerated (2-8 °C) and ship using ice packs.
 - If transit time will be > 7 days post-collection, pour serum into a sterile, leak-proof, screw-cap tube and store/ship frozen (-20°C or colder).
- **Urine** in sterile container with sterile screw-cap container
 - Following collection, transfer urine to a sterile screw-cap container. To prevent leakage during shipping, secure Parafilm around container cap. Do not ship urine cups.
 - ≥ 1.0 mL (minimum) required; must be submitted together with a patient-matched serum specimen.
 - Store refrigerated (2-8 °C) and ship using ice packs; prefer specimen frozen (-20°C or colder), then shipped on dry ice, if possible.
- **CSF and amniotic fluid** in sterile screw-cap container
 - ≥ 1.0 mL (minimum) required; must be submitted together with a patient-matched serum specimen.
 - Store refrigerated (2-8 °C) and ship using ice packs; prefer specimen frozen (-20°C or colder), then shipped on dry ice, if possible.
- **Other specimens types**
 - For submission of other specimen types, such as placenta tissue or umbilical cord, coordinate with the OSDH ADS Epidemiologist-on-Call at (405) 271-4060.



Completing the Test Requisition Form

- An OSDH *PHL Test Requisition Form* must be completed and submitted with each specimen type.
- The OSDH *PHL Test Requisition Form* can be downloaded/electronically completed at the OSDH PHL website (“Forms”) or a hard copy can be provided by the OSDH ADS Epidemiologist-on-Call.
 - Include patient’s name or unique patient identifier (e.g., MR#), DOB, sex, specimen type, date of specimen collection, name and address of submitter, and test requested.
 - Indicate specimen source; a separate test requisition form is required for each specimen type, e.g., if submitting a serum and urine specimen on the same patient, then two test requisition forms will be required.
 - Under the Virology section of the form, mark ‘Zika virus, IgM antibodies and/or Zika virus, chikungunya virus, dengue virus, PCR’.

Shipping to the OSDH PHL

- Ship to the OSDH PHL Monday through Thursday using the following address:
 - OSDH Public Health Laboratory
 - 1000 NE 10th Street
 - Oklahoma City, OK 73117-1299
- For specimens that cannot be shipped immediately, store according to specimen storage guidelines above.
- Specimens must be packaged and shipped in accordance with Category B agent guidelines.
- Courier service to the OSDH PHL may be available through your local hospital; contact the PHL Client Services.

Cautionary Note Regarding Alternative Commercial Testing

Currently, several commercial laboratories in the US offer Zika virus testing using real-time RT-PCR. However, these laboratories do not provide Zika IgM ELISA testing with PRNT confirmation, and have no routine process to forward specimens to another laboratory when test results are negative. Therefore, if requesting Zika rRT-PCR testing from a commercial laboratory, **providers should request the draw site/laboratory to retain an aliquot of the serum for Zika IgM testing if the rRT-PCR testing is negative.** Whole blood should be collected and processed per guidelines of the commercial testing laboratory but serum from an additional serum separator tube should be transferred to a polypropylene tube and stored refrigerated (2-8°C) until it is known if additional IgM testing is indicated. If a serum aliquot cannot be stored or is not available, but further testing is indicated, a new blood sample should be collected.



Oklahoma State Department of Health
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Oklahoma State Department of Health
Public Health Laboratory

1000 N.E. 10th Street, Oklahoma City, OK 73117-1299
Tel: (405)271-5070; Fax: (405)271-4850
Email: PublicHealthLab@health.ok.gov
Test Directory: <http://phl.health.ok.gov>

Laboratory Director:
S. Terence Dunn, PhD
CLIA #: 37D0656594

Please, PRINT; *indicates required fields

Patient Information

Name (last, first)* _____, _____ Initial ____ DOB* ____ / ____ / ____

Address _____ City _____ State ____ Zip _____

Sex:* M F Ethnicity: Hispanic/Latino Non-Hispanic/Non-Latino Unknown
Race: (mark all applicable) White Black/African American Asian American Indian/ Alaska Native
 Native Hawaiian/Other Pacific Islander Other

Submitter Information

Practitioner Name (last, first)* _____, _____ Initial ____ NPI _____

Facility Name* _____ Phone # () - Fax # () -

Address* _____ City* _____ State ____ Zip* _____

Clinical Information

Diagnosis _____ Onset (mm-dd-yyy) ____ / ____ / ____

Antibiotics (list and start dates) _____

Specimen Information

Collection Date (mm-dd-yyy)* ____ / ____ / ____ Time (hour:minute) _____ AM / PM By _____

Source/Type* (check one only)

- Blood Serum Urine Stool CSF Pleural fluid Pericardial fluid Blood smears
- Sputum, expect. Sputum, induced Bronchial brush Bronchial wash Bronchoalveolar lavage Tracheal aspirate
- Nasopharynx Nasal Throat Eye Rectum/anus Vagina Cervix
- Tissue (specify): Wound/Lesion (specify):
- Cultured isolate (specify suspect agent): Environmental (specify):
- Other (specify):

Test Request (mark one only)

Bacteriology

- Bacterial isolate, identification/serotyping/confirmation
Variable specimen according to source (contact lab)
- Bacteria, non-enteric, isolation and identification
Variable specimen according to source (contact lab; requires pre-approval)
- Enteric pathogens, isolation and identification
Feces, 2 g or 5-10 mL in Cary Blair or GN Broth (STEC only)
- Bordetella
Nasopharynx, 1 or 2 swabs; Isolate, confirm visible growth
- Chlamydia/Gonorrhea
Urine, first 20-60 mL of void – transfer to UPT tube
- Group B streptococcus
Vaginal/anal swab in LIM broth (combined vaginal/anal collection preferred)
- Syphilis, RPR w/ reflex to TP-PA
Serum in SST, 2 mL
- Syphilis, RPR and TP-PA
Serum in SST, 2 mL; (CHDs only, requires pre-approval by DIS)
- Bacteria, environmental (contact lab)

Virology

- Hepatitis B surface antigen (HBsAg)
Serum, 2 mL (approved submitters only)
- HIV-1/2 antigen/antibodies
Serum in SST, 2 mL (approved submitters only)
- Human papillomavirus, high risk
Residual ThinPrep, 1 mL
- Influenza virus A and B
Nasopharyngeal (preferred), nasal or throat swabs, 1 or 2 in VTM
- Rubella antibodies
Serum in SST, 1 mL (female CHD patients only)
- Virus isolation and/or identification
Throat, nasopharynx, rectum, eye, lesion, 1 swab in VTM; Blood, 5 mL heparin; Feces, 2 g or 5-10 mL; CSF, 1 mL; Eye scrapings in VTM; Urine, 20 mL (first morning void); Isolate; Other (contact lab)
- West Nile virus/St. Louis encephalitis virus, IgM antibodies
Serum in SST, 2 mL; CSF, 1 mL (CSF must be accompanied by serum)
- Zika virus, IgM antibodies and/or Zika virus, chikungunya virus, dengue virus, PCR
Serum in SST, 2mL; CSF, 1 mL; Urine 1 mL; Amniotic fluid 1mL (CSF, urine and amniotic fluid must be accompanied by serum)
(requires pre-approval by OSDH Acute Disease Service)

Mycobacteriology/Mycology

- Fungal isolate, identification
Plate or slant with visible growth
- Mycobacteria, smear and culture w/ reflex to identification
Respiratory sediments, 5-10 mL; Sterile fluid, >2 mL; Blood, 5-10 mL ACD or heparin; Tissue, 1 g; Urine, >5 mL
- Mycobacteria, isolate identification
Liquid culture, >3 mL; Solid culture, visible growth
- M. tuberculosis complex PCR
Respiratory sediments, 5-10 mL (CHDs require OSDH TB physician pre-approval)

Parasitology

- Intestinal ova and parasites (O&P)
Solid feces, 2 g or Liquid feces, 5-10 mL in PVA and 10% formalin
- Parasites, blood
Babesia/trypanosomes/filariae: Giemsa or Giemsa-Wright-stained blood smears, 1 thick and 1 thin
Malaria: Giemsa or Giemsa-Wright-stained blood smears, 1 thick and 1 thin AND 2-6 mL EDTA blood
- Parasites, tissue
Impression or biopsy; Other (contact lab; requires pre-approval)