



HOSPITAL INFORMATION PACKET

Labor & Delivery
Newborn Nursery



UTAH DEPARTMENT OF
HEALTH

Bureau of Epidemiology – 1-888-374-8824 | Utah Birth Defects Network – 1-866-818-7096



State of Utah

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6 July 2016

Dear Colleagues,

As you are aware, the World Health Organization (WHO) has declared the Zika virus outbreak a public health emergency of international concern. The Utah Department of Health (UDOH) Zika Action Plan (ZAP) Committee addresses these urgent concerns of Zika virus infection and the threat it poses for pregnant women and infants.

As part of the state's response, this committee has prepared this information packet to assist you as healthcare providers caring for pregnant women and newborns infected with Zika virus. We strongly encourage all obstetrical, family practice providers and hospital clinicians who will be working with pregnant women and infants to familiarize themselves with the contents of this packet.

Please contact the Utah Department of Health, Bureau of Epidemiology at (801) 538-6191 or the Utah Birth Defect Network at (866) 818-7096 with any additional questions or concerns you may have.

Sincerely,

Allyn K. Nakashima, MD
State Epidemiologist
Utah Department of Health



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www.health.utah.gov/els

To report Disease or Outbreak 1-888-EPI-UTAH (374-8824)

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Zika: The Basics of the Virus and How To Protect Against It



About Zika

Zika virus spreads to people primarily through the bite of an infected *Aedes* species mosquito (*Ae. aegypti* and *Ae. albopictus*). People can also get Zika through sex with a man infected with Zika and it can be spread from a pregnant woman to her fetus. People can protect themselves from mosquito bites and getting Zika through sex. This fact sheet explains who's most affected and why, symptoms and treatment, and how to protect against Zika.

How Zika Spreads

The mosquitoes that carry Zika are aggressive daytime biters, but they can also bite at night. A mosquito becomes infected when it bites a person already infected with Zika. That mosquito can then spread the virus by biting more people.



Zika virus can also spread:

- ◆ During sex with a man infected with Zika.
- ◆ From a pregnant woman to her fetus during pregnancy or around the time of birth.
- ◆ Through blood transfusion (likely but not confirmed).

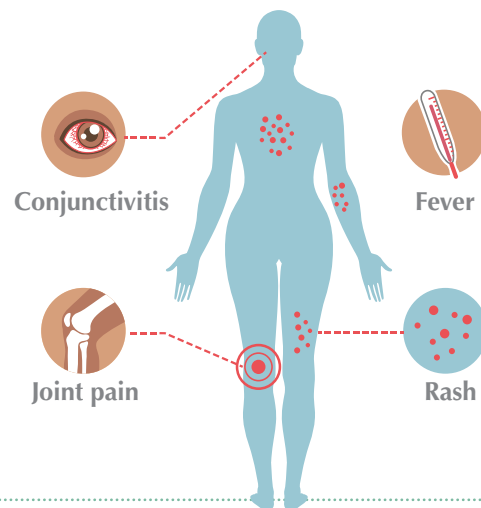
Current Zika Outbreak

Zika outbreaks are currently happening in many countries and territories. The mosquitoes that can become infected with and spread Zika live in many parts of the world, including parts of the United States.

[Specific areas where Zika virus is spreading](#) are often difficult to determine and are likely to change over time. If traveling, please visit the [CDC Travelers' Health website](#) for the most recent travel information.

Zika Symptoms

Many people infected with Zika won't have symptoms or will only have mild symptoms. The most common symptoms are fever, rash, joint pain, or red eyes. Other common symptoms include muscle pain and headache. Symptoms can last for several days to a week. People usually don't get sick enough to go to the hospital, and they very rarely die of Zika. Once a person has been infected with Zika, they are likely to be protected from future infections.



Why Zika is Risky for Some People

Zika infection during pregnancy can cause fetuses to have a birth defect of the brain called microcephaly. Other problems have been detected among fetuses and infants infected with Zika virus before birth, such as defects of the eye, hearing deficits, and impaired growth. There have also been increased reports of Guillain-Barré syndrome, an uncommon sickness of the nervous system, in areas affected by Zika.



How to Prevent Zika

There is no vaccine to prevent Zika. The best way to prevent diseases spread by mosquitoes is to protect yourself and your family from mosquito bites. Here's how:



- ♦ Wear long-sleeved shirts and long pants.
- ♦ Stay in places with air conditioning and window and door screens to keep mosquitoes outside.
- ♦ Take steps to control mosquitoes [inside and outside your home](#).
- ♦ Treat your clothing and gear with permethrin or buy pre-treated items.
- ♦ Use [Environmental Protection Agency \(EPA\)-registered](#) insect repellents. Always follow the product label instructions.
 - » When used as directed, these insect repellents are proven safe and effective even for pregnant and breastfeeding women.
 - » Do not use insect repellents on babies younger than 2 months old.
 - » Do not use products containing oil of lemon eucalyptus or para-menthane-diol on children younger than 3 years old.
- ♦ Mosquito netting can be used to cover babies younger than 2 months old in carriers, strollers, or cribs to protect them from mosquito bites.
- ♦ Sleep under a mosquito bed net if air conditioned or screened rooms are not available or if sleeping outdoors.
- ♦ [Prevent sexual transmission of Zika by using condoms or not having sex.](#)



What to do if You Have Zika

There is no specific medicine to treat Zika.

Treat the symptoms:

- ♦ Get plenty of rest.
- ♦ Drink fluids to prevent dehydration.
- ♦ Take medicine such as acetaminophen to reduce fever and pain.
- ♦ Do not take aspirin or other non-steroidal anti-inflammatory drugs.
- ♦ If you are taking medicine for another medical condition, talk to your healthcare provider before taking additional medication.



To help prevent others from getting sick, strictly follow steps to prevent mosquito bites during the first week of illness.





II. Zika Virus, The Pregnant Woman, and Labor & Delivery



UTAH DEPARTMENT OF
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Bureau of Epidemiology – 1-888-374-8824 | Utah Birth Defects Network – 1-866-818-7096

Recommendations for Zika Virus Testing and Follow-Up

Updated on August 25, 2016

Background

Zika virus is a flavivirus that is transmitted to humans primarily by *Aedes* species mosquitoes; in the Americas, *Aedes aegypti*, is the most common vector. Other documented modes of transmission include intrauterine resulting in congenital infection, intrapartum from a viremic mother to her newborn, sexual, blood transfusion and laboratory exposure. Only about 1 in 5 people who are infected with Zika virus show symptoms. In those that do, the most common symptoms are fever, rash, joint pain, and conjunctivitis. Human disease has been seen in Africa, Asia, and the Pacific islands. In May 2015, the first locally-acquired cases in the Americas were reported in Brazil. Since then, local transmission has been reported in many countries in the Americas and several U.S. territories, including Puerto Rico, the U.S. Virgin Islands, and American Samoa (<http://wwwnc.cdc.gov/travel/page/zika-information>).

The first case of sexual transmission documented in the United States occurred in Dallas, Texas, in February 2016. Since that time, the U.S. Centers for Disease Control and Prevention (CDC) has reported additional cases from both men and women to their sexual partners. For guidance on prevention of sexual transmission of Zika virus, visit

http://www.cdc.gov/mmwr/volumes/65/wr/mm6529e2.htm?s_cid=mm6529e2.

In Brazil, a substantial increase in the number of infants born with microcephaly was noted in 2015, and Zika virus infection has been identified in several infants born with microcephaly and other fetal losses. In March 2016, CDC published outcomes of Zika virus infection among nine U.S. pregnant travelers; all of these women had one or more symptoms. Five of six women who reported symptoms during the first trimester had poor pregnancy outcomes, including miscarriages (2), elective terminations (2), and microcephaly (1) (<http://www.cdc.gov/mmwr/volumes/65/wr/mm6508e1.htm>).

In May 2016, the CDC reviewed the evidence that Zika virus causes birth defects and determined that there is a causal association between Zika virus infection and adverse pregnancy outcomes (Rasmussen SA et al. *N Engl J Med* 2016;374:1981-1987). Therefore, CDC is recommending that pregnant women avoid traveling to areas with ongoing Zika virus transmission, if at all possible. Women who traveled to these areas while pregnant should be evaluated according to the guidance found at the following websites. The websites include recommendations for women who want to get pregnant after recent travel to an area with active Zika virus transmission.

<http://www.cdc.gov/mmwr/volumes/65/wr/mm6512e2.htm>



http://www.cdc.gov/mmwr/volumes/65/wr/mm6529e1.htm?s_cid=mm6529e1_e

In August 2016, the Florida Department of Health reported local mosquito-borne transmission of Zika virus by the *Aedes aegypti* in two areas of Miami-Dade County; the Wynwood neighborhood and a section of Miami Beach. The CDC is recommending that pregnant women avoid travel to this area if at all possible. For more information about local transmission in Florida, visit

<http://www.cdc.gov/zika/intheus/florida-update.html>.

Zika-Affected Areas/ Travel Information

Travel-related recommendations will be updated by CDC as needed, and travelers should consult the following website to find out the latest advisories: <http://wwwnc.cdc.gov/travel/page/zika-travel-information>

Recommendations for Diagnostic Testing for Zika

Diagnostic testing for Zika virus is recommended for the following persons who have traveled to an area with Zika virus transmission or have had unprotected sex with a person who has recently traveled to such an area: 1) a person who is experiencing symptoms of Zika virus; and 2) a pregnant woman (with or without symptoms) who may have been exposed. Symptoms only occur in about 1 in 5 people and include fever, rash, joint pain, conjunctivitis (red eyes), muscle pain, and headache (<http://www.cdc.gov/zika/symptoms/>). Symptoms typically begin within a few days after being bitten by an infected mosquito. Diagnostic testing is not recommended for asymptomatic men, asymptomatic non-pregnant women, and children.

<http://www.cdc.gov/zika/hc-providers/testing-for-zikavirus.html>

Follow-up of Pregnant Women and Infants

For pregnant women where exposure to Zika virus is a real concern, the clinician should follow the pregnancy with serial fetal ultrasounds and other tests to detect abnormalities regardless of the initial Zika virus test results. If fetal abnormalities are detected later in pregnancy, then Zika virus testing should be repeated. Interim guidance for evaluation and testing of infants with microcephaly or intracranial calcifications whose mothers traveled to or resided in an area with Zika virus transmission during pregnancy can be found at <http://www.cdc.gov/mmwr/volumes/65/wr/mm6533e2.htm>. If the clinical provider has questions regarding further testing of pregnant women or infants, please contact the UDOH, Bureau of Epidemiology at 801-538-6191.

If a pregnant woman has a partner who lives in or traveled to an area with active Zika virus transmission, the couple should correctly and consistently use condoms or abstain from sex **for the duration of the woman's pregnancy regardless of Zika test results**. Sex includes vaginal, anal and oral sex and the



sharing of sex toys. Zika virus has been detected in semen long after the virus is no longer present in blood.

Pregnant women who test positive for Zika virus will be followed up by public health at labor and delivery to determine pregnancy outcomes. The infant will also be followed to determine outcomes that may not have been readily apparent at birth.

Couples Planning Pregnancy

Couples in which the man has traveled to an area with active Zika virus transmission should postpone pregnancy for 6 months if the man is symptomatic and 2 months if the man is asymptomatic, regardless of Zika test results. If the woman has traveled to an area with active Zika virus transmission, then pregnancy should be postponed for 2 months, regardless of Zika virus test results.

Zika Laboratory Testing Information

- Approved laboratory tests for Zika virus infection diagnosis include a combination of polymerase chain reaction (RT-PCR), Zika virus IgM antibody, and plaque reduction neutralization antibody tests (PRNT). The Trioplex RT-PCR test, available at some state laboratories and CDC, allows for testing of serum and cerebrospinal fluid (CSF) for Zika virus, chikungunya, and dengue. Urine and amniotic fluid can be used to detect Zika virus only. The Zika IgM-ELISA is also available at some state laboratories, commercial laboratories, and CDC, and can be used to test serum and CSF specimens. PRNT testing on serum is confirmatory and is available at CDC and some state laboratories; these tests can measure virus-specific neutralizing antibody titers to determine the cause of primary flavivirus infection. Given the overlap of symptoms and endemic areas with other arboviral illnesses, patients should also be evaluated for other possible flavivirus infections. There may be serological cross-reactivity among the flaviviruses and current IgM antibody assays may not reliably distinguish between Zika virus and dengue virus infections. CDC has been looking for cross-reactivity on recent samples submitted for Zika virus testing and has found that the Zika virus IgM MAC-ELISA test is performing better than expected.
- Currently, the Utah Public Health Laboratory (UPHL) performs the Zika virus IgM MAC-ELISA and the Trioplex RT-PCR tests. Equivocal or inconclusive IgM test results will be sent to the CDC laboratory in Fort Collins, CO, for confirmation, including PRNT testing. If testing cannot be confirmed at UPHL, the specimen will be sent to CDC in Fort Collins for confirmatory testing.
- In patients who have been immunized against yellow fever or Japanese encephalitis virus or who have been infected with another flavivirus (e.g., West Nile or St. Louis encephalitis virus) in the past, cross-reactive antibodies in both the IgM and neutralizing antibody assays may make it difficult to identify which flavivirus is causing the patient's current illness. Because antibody tests may cross-react with other flaviviruses (e.g., dengue, yellow fever, or Japanese B encephalitis) and produce false positives, it is recommended the patient be tested for these viruses as well.

CDC is currently performing dengue and chikungunya antibody tests on Zika virus IgM-positive specimens only. If clinicians need to rule out these infections regardless of Zika virus results, these tests are available through commercial laboratories.

- Acute serum collected within the first 14 days following symptom onset should be tested by RT-PCR. IgM antibodies may be detectable by day 4 of illness but this test is more reliable later in the course of infection. For persons whose infections are equivocal on IgM, paired acute and convalescent specimens, collected 2-4 weeks apart, may be necessary to confirm or rule-out infection.
- Serum collected between 2 to 12 weeks following symptom onset should be tested by IgM.
- Urine specimens may be collected within the first 14 days following symptom onset and should be tested by PCR. Urine specimens must always be accompanied with a serum sample.
- Consultation about laboratory testing is available through the Utah Department of Health (UDOH) State Epidemiologist, Medical Officer on call at the Utah Department of Health, or local public health department (see contact information below).

Requesting laboratory testing in Utah

- At this time, Zika virus testing for Utah residents will be performed at UPHL free of charge. However, testing capacity may be limited; therefore, UPHL and CDC are requesting that the State Epidemiologist, Medical Officer on-call at the UDOH, or the local public health department approve testing requests. **To discuss testing, please contact your local health department or UDOH, Bureau of Epidemiology at 801-538-6191.** Visit http://www.cdc.gov/mmwr/volumes/65/wr/mm6521e1.htm?s_cid=mm6521e1_w#T1 down for Interim Guidance for Interpretation of Zika Virus Antibody Test Results.

Serum specimen collection and transport

| General Instructions | Storage | Shipping |
|---|--|--|
| Collect serum (≥ 3 mL) in a large serum separator tube. | Samples collected and shipped with expected arrival the same day can be shipped on cold packs (4°C); not frozen. | If storage/transport will exceed 24 hours, serum should be frozen at -20°C or lower. Ship samples on dry ice to UPHL. |

Urine specimen collection and transport

| General Instructions | Storage | Shipping |
|--|--|---|
| Provide 1.0 mL of urine in a 1.8 mL cryotube or 2.0 mL microtube with sterile screw capped vial secured with thermoplastic, self-sealing lab film. | For RT-PCR testing, specimens should be kept cold (2–6 °C) if shipped within 24 hours or frozen (-70 °C) for storage and shipping greater than 24 hours. For virus isolation testing, specimens should be frozen (-70°C) as soon as possible. | Urine specimens should always be accompanied with a serum specimen. |



Collecting & submitting specimens for Zika virus testing at time of birth

| Specimen Type | General Instructions | Storage | Shipping |
|---|--|---|--|
| Infant serum (with in first 2 days of life) | At least 1.0 ml Transfer serum to a plastic tube measuring approximately 50 mm tall and 15 mm in diameter (e.g., 1.8 mL cryotube or 2.0 mL microtube) with screw cap and secure with thermoplastic, self-sealing lab film. | For cold specimens, the sample should be placed in an insulated container with adequate ice packs to ensure specimen (cold chain) integrity. For frozen specimens, ship the sample on enough dry ice to ensure specimens remain frozen until received. | If storage/transport will exceed 24 hours, serum should be frozen at -20°C or lower. Ship samples on dry ice to UPHL. |
| Infant urine (with in first 2 days of life) | Provide 1.0 mL of urine in a 1.8 mL cryotube or 2.0 mL microtube with sterile screw capped vial secured with thermoplastic, self-sealing lab film. | For RT-PCR testing, specimens should be kept cold (2–6 °C) if shipped within 24 hours or frozen (-70 °C) for storage and shipping greater than 24 hours. For virus isolation testing, specimens should be frozen (-70°C) as soon as possible. | Urine specimens should always be accompanied with a serum specimen. |
| Placenta and fetal membranes¹ | Collect a minimum of (3) 0.5-1 x 3-4 cm in depth) from middle third of placental disk and at least 1 from the placental disk margin. Label all specimens to identify location of sample. | Tissues should be placed into two sterile containers containing adequate formalin. Formalin should be about 10x mass of tissue. Place in 10% neutral buffered formalin for a minimum of 3 days. Once fully fixed, tissue can be transferred to 70% ethanol for long-term storage. | At least one formalin fixed (wet) or formalin-fixed paraffin-embedded (FFPE) placental tissue sample should be stored and sent at room temperature to UPHL. |
| Umbilical cord¹ | Collect a minimum of (4) 0.25 cm squares from the umbilical cord. Umbilical cord segments should be obtained proximal middle, and distal to umbilical cord insertion site on the placenta. Label all specimens to identify location of sample. | Fresh tissues should be placed into two sterile containers. Formalin should be about 10x mass of tissue. Place in 10% neutral buffered formalin for a minimum of 3 days. Once fully fixed, tissue can be transferred to 70% | At least one formalin fixed (wet) or formalin-fixed paraffin-embedded (FFPE) umbilical cord tissue sample should be stored and sent at room temperature to UPHL. |

| | | | |
|--|--|--------------------------------|--|
| | | ethanol for long term storage. | |
|--|--|--------------------------------|--|

Notes

[¶]Generally considered at less than 12 weeks gestational age

[⊥]Considered at any gestation for which placenta is available

[‡]Considered upon fetal demise

Refer to the following websites for more information.

- <http://www.cdc.gov/zika/hc-providers/tissue-collection-submission.html>
- <http://www.cdc.gov/zika/hc-providers/test-specimens-at-time-of-birth.html>

Follow packaging and shipping instructions for Category B, Biological Substances.

Laboratory Forms Required for Testing by UPHL and CDC

The Infectious Disease Test Request Form should be securely emailed or faxed to UDOH and accompany the original with the specimen to Utah Public Health Lab (UPHL). The UPHL form is available at <http://health.utah.gov/epi/diseases/zika>. If a provider needs assistance with completing the form, work with the local health department (LHD) or UDOH epidemiology staff. Additional forms may be required if confirmation testing is necessary. Samples with incomplete information will result in delayed testing and reporting of results. Answers to questions about specimen types or shipping can be found at:

<http://www.cdc.gov/ncezid/dvbd/specimensub/arboviral-shipping.html>

- Arrangements must be made with the UDOH or LHD for specimen shipping and delivery to the UPHL in advance.
- Turnaround time for preliminary results is 7-10 days. If the samples must be sent to CDC for confirmation, turnaround time is 21-28 days.



ZIKA VIRUS: COLLECTION AND SUBMISSION OF SPECIMENS FOR ZIKA VIRUS TESTING AT TIME OF BIRTH



General Information

Laboratory testing for congenital Zika virus infection is recommended for infants born to mothers with laboratory evidence of Zika virus infection during pregnancy, and for infants who have abnormal clinical findings suggestive of congenital Zika virus syndrome and a maternal epidemiologic link suggesting possible transmission, regardless of maternal Zika virus test results.

For infants born to mothers with risk factors for maternal Zika virus infection (travel to or residence in an area of Zika virus transmission or sex with a partner with travel to or residence in such an area) for whom maternal testing was not performed before delivery, assessment of the infant, including comprehensive physical exam and careful measurement of head circumference should be performed. Maternal diagnostic testing should be performed and testing of the placenta for Zika virus PCR should be considered. If an infant appears clinically well, further evaluation and infant testing can be deferred until maternal test results are available. However, if there is concern about infant follow-up, infant testing should be performed before hospital discharge.

IMPORTANT: Pre-approval is required prior to submission of any placental or other tissue specimens. For pre-approval please contact pathology@cdc.gov and eocevent189@cdc.gov.

Healthcare Providers:

- Please contact your state, tribal, local, or territorial health department to facilitate laboratory testing and pathology specimen submission.
 - » If available in your hospital/institution, please consult surgical pathology to ensure appropriate collection and processing of tissue specimens for Zika virus testing.
 - » Please see table below for information on collection of specimens for Zika virus testing.
- **Specimens should ONLY be sent to CDC directly from health departments.** CDC's Zika Pregnancy Hotline (770-488-7100) is available 24/7 to healthcare providers and health departments for consultation regarding management of pregnant women and infants with possible Zika virus. This hotline can also assist with questions regarding specimen submission. Healthcare providers and state and local health officials can call our CDC Watch desk at 770-488-7100 (ask for CDC Zika Pregnancy Hotline) or email zikapregnancy@cdc.gov.

Health Departments:

- When submitting specimens, please submit [CDC Form 50.34](#) with all specimens. For test order name, write "Zika virus".
- **Pre-approval is required** prior to submission of all tissue specimens (i.e., placenta, umbilical cord). Please contact pathology@cdc.gov and eocevent189@cdc.gov to discuss the case and obtain pre-approval. If you have additional questions for the Infectious Diseases Pathology Branch, please call 404-639-3133.
- If you have additional questions for the Arboviral Diseases Branch, please call 970-221-6400.

Reporting of Results:

- Test results will be reported to the state health department and the submitting healthcare provider. Results will not be directly released to patients.
- Turnaround time will depend on testing volume and established reporting systems.



**U.S. Department of
Health and Human Services**
Centers for Disease
Control and Prevention

| Specimen Type | General Instructions | Notes | Storage | Shipping |
|-------------------------------------|---|--|---|--|
| Infant serum | <p>At least 1.0 ml</p> <p>Transfer serum to a plastic tube measuring approximately 50 mm tall and 15 mm in diameter (e.g., 1.8 mL cryotube or 2.0 mL microtube) with screw cap and secure with thermoplastic, self-sealing lab film.</p> | <p>For antibody and rRT-PCR testing, specimens should be kept cold (2–6 °C) or frozen (–70 °C).</p> <p>For virus isolation testing, specimens should be frozen as soon as possible (–70 °C).</p> | <p>For cold specimens, the sample should be placed in an insulated container with adequate ice packs to ensure specimen (“cold chain”) integrity.</p> <p>For frozen specimens, ship the sample on enough dry ice to ensure specimens remain frozen until received.</p> | <p>Arboviral Diseases Branch Diagnostic Laboratory Centers for Disease Control and Prevention 3156 Rampart Road Fort Collins, Colorado 80521</p> <p>More information about collecting, handling, and shipping is available here.</p> |
| Placenta and fetal membranes | <p>Several full thickness pieces including at least 3 full thickness pieces (0.5–1 cm x 3–4 cm in depth) from middle third of placental disk and at least 1 from the placental disk margin</p> <p>5 x 12 cm strip of fetal membranes</p> <p>Please include sections of the placental disk, fetal membranes, and pathologic lesions when possible.</p> | <p>Please include information about placenta weight and sample both maternal and fetal side of the placenta.</p> <p>Label all specimens to identify location of sample.</p> | <p>Fix specimens in formalin</p> <p>Volume of formalin used should be about 10x mass of tissue. Place in 10% neutral buffered formalin for a minimum of 3 days. Once fully fixed the tissue can be transferred to 70% ethanol for long term storage.</p> <p>Storage and shipping at room temperature.</p> | <p>Infectious Diseases Pathology Branch Centers for Disease Control and Prevention 1600 Clifton Rd. NE, MS G-32 Atlanta GA 30329-4027</p> <p>More instructions can be found here.</p> |
| Umbilical cord | <p>2.5 cm segments of cord</p> <p>4 or more specimens</p> | <p>Umbilical cord segments should be obtained proximal, middle, and distal to umbilical cord insertion site on the placenta.</p> <p>Label all specimens to identify location of sample.</p> | <p>Fix specimens in formalin</p> <p>Volume of formalin used should be about 10x mass of tissue. Place in 10% neutral buffered formalin for a minimum of 3 days. Once fully fixed the tissue can be transferred to 70% ethanol for long term storage.</p> <p>Storage and shipping at room temperature.</p> | <p>Infectious Diseases Pathology Branch Centers for Disease Control and Prevention 1600 Clifton Rd. NE, MS G-32 Atlanta GA 30329-4027</p> <p>More instructions can be found here.</p> |

INFECTIOUS DISEASE TEST REQUEST FORM

| | |
|---|--|
| UTAH PUBLIC HEALTH LABORATORY 4431 SOUTH 2700 WEST TAYLORSVILLE, UTAH 84129 TELEPHONE: (801) 965-2400 FAX: (801) 965-2551 http://health.utah.gov/lab/infectious-diseases | FOR UPHL USE ONLY LAB# _____ DATE STAMP _____ |
|---|--|

PLEASE PRINT CLEARLY FOR ACCURACY.

| | | | | | |
|--|------------------------------|-----------|---|---|--|
| PATIENT INFORMATION: | | | | | |
| PATIENT STATE OF RESIDENCE: <div style="text-align: center;">UT</div> | PATIENT COUNTY OF RESIDENCE: | ZIP CODE: | DATE OF BIRTH (mm/dd/yyyy) <div style="text-align: center;">____/____/____</div> | AGE | SEX <div style="text-align: center;">M F</div> |
| PATIENT NAME (Last, First): | | | Is Patient Insured? <div style="text-align: center;"><input type="checkbox"/> Yes <input type="checkbox"/> No</div> | STI TESTING ONLY: Is patient MSM? <div style="text-align: center;"><input type="checkbox"/> Yes <input type="checkbox"/> No</div> | |

| | | |
|------------------------------|---|--|
| PATIENT ID # (public health) | ETHNICITY <input type="checkbox"/> Hispanic <input type="checkbox"/> Non-Hispanic | RACE <input type="checkbox"/> White <input type="checkbox"/> Black or African American <input type="checkbox"/> American Indian or Alaska Native <input type="checkbox"/> Asian <input type="checkbox"/> Native Hawaiian or other Pacific Islander |
|------------------------------|---|--|

| | | |
|---|---|--|
| PROVIDER INFORMATION Provider Code: _____ | Physician: _____ Provider Phone: _____ Provider Email: _____ Secure Fax #: _____ | SPECIMEN COLLECTION DATE AND TIME (mm/dd/yy) ____/____/____ Time: _____ |
|---|---|--|

| | | | |
|---|---|--|---|
| SPECIMEN SOURCE/SITE (CHOOSE 1): | | | |
| <input type="checkbox"/> Blood <input type="checkbox"/> Body Fluid (specify): _____ <input type="checkbox"/> Bronchoalveolar lavage <input type="checkbox"/> Bronchial aspirate/wash <input type="checkbox"/> Cerebrospinal Fluid <input type="checkbox"/> Cervix <input type="checkbox"/> (Endo)tracheal aspirate/wash | <input type="checkbox"/> Environmental (specify): _____ <input type="checkbox"/> Food (specify): _____ <input type="checkbox"/> Isolate (source): _____ <input type="checkbox"/> Lesion (site): _____ <input type="checkbox"/> Liquid Pap <input type="checkbox"/> Nasal (aspirate /swab / wash) <input type="checkbox"/> Nasopharyngeal swab | <input type="checkbox"/> Plasma <input type="checkbox"/> Rectum <input checked="" type="checkbox"/> Serum <input type="checkbox"/> Sputum (natural / induced) <input type="checkbox"/> Stool <input type="checkbox"/> Throat swab <input type="checkbox"/> Tissue (specify): _____ | <input type="checkbox"/> Urethra <input type="checkbox"/> Urine <input type="checkbox"/> Vagina <input type="checkbox"/> Vomitus <input type="checkbox"/> Wound/Abcess <input type="checkbox"/> Other (specify): _____ |

| | | |
|--|--|---|
| BACTERIOLOGY/TUBERCULOSIS TESTS Bacteriology Specimen REQUIRED Shipping Temperature: _____ <input type="checkbox"/> Bacterial Culture <input type="checkbox"/> Bacterial ID / Referral Presumptive ID: _____ <input type="checkbox"/> Mycobacterial culture <input type="checkbox"/> Mycobacterial referral Presumptive ID: _____ <input type="checkbox"/> Other (specify): _____ | VIROLOGY / IMMUNOLOGY TESTS <input type="checkbox"/> C. trachomatis and N. gonorrhea by NAAT <input type="checkbox"/> Patient is a partner of a 15-24 year old female <input type="checkbox"/> Herpes/VZV PCR (HSV-1, HSV-2, VZV) <input checked="" type="checkbox"/> Virus Identification Virus suspected _____ <u>ZIKA</u> <input type="checkbox"/> Cytomegalovirus <input type="checkbox"/> Varicella zoster virus <input type="checkbox"/> Multi-Pathogen Respiratory Panel (Includes Adenovirus, Coronavirus, Human Metapneumovirus, Rhino/Enterovirus, Influenza A, Influenza B, Parainfluenza 1-4, RSV, Bordetella pertussis, C. pneumoniae, M. pneumoniae) <input type="checkbox"/> Influenza A & B virus PCR (with subtyping) <input type="checkbox"/> Hospitalized w/ Influenza-like illness <input type="checkbox"/> Other (i.e., cluster investigation) Cluster location: _____ Other reason for testing: _____ <input type="checkbox"/> West Nile virus IgM (Human) | <input type="checkbox"/> QuantiFERON-TB Gold REQUIRED information: Blood draw date/time: _____ Incubation at 37°C completed? <input type="checkbox"/> Yes <input type="checkbox"/> No Signature: _____ Incubation start date/time: _____ Incubation end date/time: _____ <input type="checkbox"/> Syphilis IgG EIA (includes confirmatory testing) <input type="checkbox"/> RPR (suspect acute infection/previous positive) <input type="checkbox"/> HIV Antigen/Antibody (includes confirm. testing) <input type="checkbox"/> Previous positive <input type="checkbox"/> Hepatitis C Antibody <input type="checkbox"/> Add HCV RNA Testing if Positive <input type="checkbox"/> Hepatitis C RNA (Qualitative; Antibody screen not included) <input type="checkbox"/> Hepatitis B Antibody <input type="checkbox"/> Hepatitis B Antigen <input type="checkbox"/> Hantavirus (Sin Nombre) IgG/IgM <input type="checkbox"/> Acute Serum (mm/dd/yy) ____/____/____ <input type="checkbox"/> Convalescent serum (mm/dd/yy) ____/____/____ |
|--|--|---|

| | |
|---|--|
| BIOTERRORISM TESTS (Notify Lab before submitting) | |
| <input type="checkbox"/> Bacillus anthracis Detection/Identification <input type="checkbox"/> Brucella species Detection/Identification <input type="checkbox"/> Brucella antibody <input type="checkbox"/> Burkholderia mallei/pseudomallei Detection/ID <input type="checkbox"/> Clostridium botulinum culture & toxin <input type="checkbox"/> Coxiella burnetii Detection <input type="checkbox"/> Francisella tularensis Detection/Identification <input type="checkbox"/> F. tularensis antibody <input type="checkbox"/> Orthopox viruses Detection Virus Suspected: <input type="checkbox"/> Vaccinia virus <input type="checkbox"/> Varicella zoster virus <input type="checkbox"/> Variola virus <input type="checkbox"/> Yersinia pestis Detection/Identification <input type="checkbox"/> Yersinia pestis antibody <input type="checkbox"/> Other (specify): _____ | ADDITIONAL INFORMATION <input type="checkbox"/> Other Disease Suspected: _____ <div style="text-align: right;"> <input type="checkbox"/> Referral Test to CDC (form REQUIRED) specify: _____ Contact UPHL for CDC form </div> |

| |
|------------------|
| COMMENTS: |
|------------------|

Preventing Transmission of Zika Virus in Labor and Delivery Settings Through Implementation of Standard Precautions — United States, 2016

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On March 22, 2016, this report was posted as an MMWR Early Release on the MMWR website (<http://www.cdc.gov/mmwr>).

Zika virus transmission was detected in the Region of the Americas (Americas) in Brazil in May 2015, and as of March 21, 2016, local mosquito-borne transmission of Zika virus had been reported in 32 countries and territories in the Americas, including Puerto Rico and the U.S. Virgin Islands.* Most persons infected with Zika virus have a mild illness or are asymptomatic. However, increasing evidence supports a link between Zika virus infection during pregnancy and adverse pregnancy and birth outcomes (1), and a possible association between recent Zika virus infection and Guillain-Barré syndrome has been reported (2). Although Zika virus is primarily transmitted through the bite of *Aedes* species of mosquitoes, sexual transmission also has been documented (3). Zika virus RNA has been detected in a number of body fluids, including blood, urine, saliva, and amniotic fluid (3–5), and whereas transmission associated with occupational exposure to these body fluids is theoretically possible, it has not been documented. Although there are no reports of transmission of Zika virus from infected patients to health care personnel or other patients, minimizing exposures to body fluids is important to reduce the possibility of such transmission. CDC recommends Standard Precautions in all health care settings to protect both health care personnel and patients from infection with Zika virus as well as from blood-borne pathogens (e.g., human immunodeficiency virus [HIV] and hepatitis C virus [HCV]) (6). Because of the potential for exposure to large volumes of body fluids during the labor and delivery process and the sometimes unpredictable and fast-paced nature of obstetrical care, the use of Standard Precautions in these settings is essential to prevent possible transmission of Zika virus from patients to health care personnel.

Use of Standard Precautions in Health Care Settings

Health care personnel should adhere to Standard Precautions in every health care setting. Standard Precautions are designed to protect health care personnel and to prevent them from spreading infections to patients. They are based on the premise that all blood, body fluids, secretions, excretions (except

sweat), nonintact skin, and mucous membranes might contain transmissible infectious agents and include 1) hand hygiene, 2) use of personal protective equipment (PPE), 3) respiratory hygiene and cough etiquette, 4) safe injection practices, and 5) safe handling of potentially contaminated equipment or surfaces in the patient environment (6). Because patients with Zika virus infection might be asymptomatic, Standard Precautions should be in place at all times, regardless of whether the infection is suspected or confirmed. Health care personnel should assess the potential for exposure to potentially infectious material during health care delivery and protect themselves accordingly, based on the level of clinical interaction with the patient and the physical distance at which care is provided (6). In addition, health care providers should use soap and water or alcohol-based products (gels, rinses, foams), at a minimum, before and after a patient contact and after removing PPE, including gloves (6).

Use of Standard Precautions in Labor and Delivery Settings

Pregnant women lose an average of 500 mL of blood during uncomplicated vaginal deliveries, with higher losses during complicated vaginal deliveries and cesarean deliveries (7). Amniotic fluid volume at the time of full-term delivery typically exceeds 500 mL (8). Eye protection used during deliveries has been demonstrated to be contaminated with blood and body fluids (9), and when double layers of gloves are used for procedures and surgeries, the outer layers often have significant perforations, whereas the inner layers are intact or have many fewer perforations (10). Although health care personnel in these settings are at substantial risk for exposure to blood and body fluids, varying levels of adherence to Standard Precautions have been reported in health care settings, including in labor and delivery units (11). Numerous barriers to the appropriate use of PPE have been cited, including the perception that PPE is uncomfortable and limits dexterity, fogging of goggles or face masks, the misperception that prescription eyeglasses provide adequate eye protection, lack of available PPE, forgetting to use PPE, lack of time in urgent clinical situations to don appropriate PPE, the perception that the patient poses minimal risk, and concerns about interference with patient care (11). Given the theoretic risk for transmission of Zika virus through contact with body fluids in a health care

* <http://www.cdc.gov/zika/geo/active-countries.html>.

setting in which female health care personnel might be pregnant, or male or female health care personnel might be trying to conceive a pregnancy, the outbreak of Zika virus disease provides an opportunity to emphasize the importance of maintaining appropriate infection control.

The goals of Standard Precautions include 1) preventing contact between a patient's body fluids and health care personnel's mucous membranes (including conjunctivae), skin, and clothing; 2) preventing health care personnel from carrying potentially infectious material from one patient to another; and 3) avoiding unnecessary exposure to contaminated sharp implements. Health care personnel must assess the likelihood of body fluid exposure, based on the type of contact and the nature of the procedure or activity, and use appropriate PPE. For example, because the risk for splashes to areas of the body other than the hands is small when performing vaginal examinations of pregnant women with minimal cervical dilation and intact membranes, only gloves are required. Placement of a fetal scalp electrode when membranes have already been ruptured or handling newborns before blood and amniotic fluid have been removed from the newborn's skin require protection of health care personnel's skin and clothing using gloves and an impermeable gown. In contrast, when performing procedures where exposure to body fluids is anticipated, such as an amniotomy or placement of an intrauterine pressure catheter, protection of mucous membranes, skin, and clothing are recommended, with a mask and eye protection, in addition to gloves and an impermeable gown.

Anesthesia providers in the labor and delivery setting should adhere to Standard Precautions and wear sterile gloves and a surgical mask when placing a catheter or administering intrathecal injections; additional PPE should be worn based on anticipated exposure to body fluids (6). Double gloves might minimize the risk for percutaneous injury when sharps are handled. Patient body fluids also should not come into direct contact with health care personnel clothing or footwear. When performing procedures including vaginal deliveries, manual placenta removal, bimanual uterine massage, and repair of vaginal lacerations, PPE should include (in addition to mucous membrane and skin protection) impermeable gowns and knee-high impermeable shoe covers. Clothing, skin, and mucous membrane protections should be maintained for procedures performed in operating room settings.

Health care personnel should assess their risk for exposure and select PPE appropriate for the situation, and all personnel on a team involved in the same procedures should use the same level of PPE. All health care personnel should be trained in the correct use and disposal of PPE and be able to demonstrate the ability to don PPE quickly in urgent situations and remove it safely. Non-health care personnel in attendance should be

positioned away from areas of exposure risk or adequately protected. Any occupational exposures, including mucous membrane exposure following splash of body fluids, sustained by health care personnel should be reported as soon as possible to the facility's occupational health clinic to ensure appropriate assessment of health care personnel, and so that any systemic safety risks can be addressed.

In addition to use of PPE by health care personnel, placement of disposable absorbent material on the floor around the procedure and delivery area to absorb fluid can reduce the risk for splash exposure to body fluids. Infection control supplies should be available and accessible in all patient care areas where they will be needed. Standard cleaning and disinfection procedures for environmental surfaces, using Environmental Protection Agency-registered hospital disinfectants, should be followed.

Importance of Ongoing Education and Training

Standard Precautions represent the minimum infection prevention expectations for safe care across all health care settings. Ongoing education and training of all health care personnel in a facility, including those employed by outside entities, on the principles and rationale for use of Standard Precautions and use of specific PPE help ensure that infection control policies and procedures are understood and followed (6). These educational efforts should emphasize that infection prevention strategies enhance the quality of patient care and do not alter the relationship between provider and patient. Barriers (e.g., cost and lack of standardized protocols in facilities) to implementation of Standard Precautions and use of PPE should be addressed as soon as they are recognized. Facility, nursing, and obstetric leadership is critical for instituting infection prevention policies and promoting routine use of and adherence to Standard Precautions (6). Infectious disease outbreaks, such as the current Zika virus disease outbreak, provide an opportunity to emphasize the importance of adherence to published infection prevention strategies to prevent transmission of infectious diseases in all health care settings, including labor and delivery units.

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III. Zika Virus and Newborn Infants



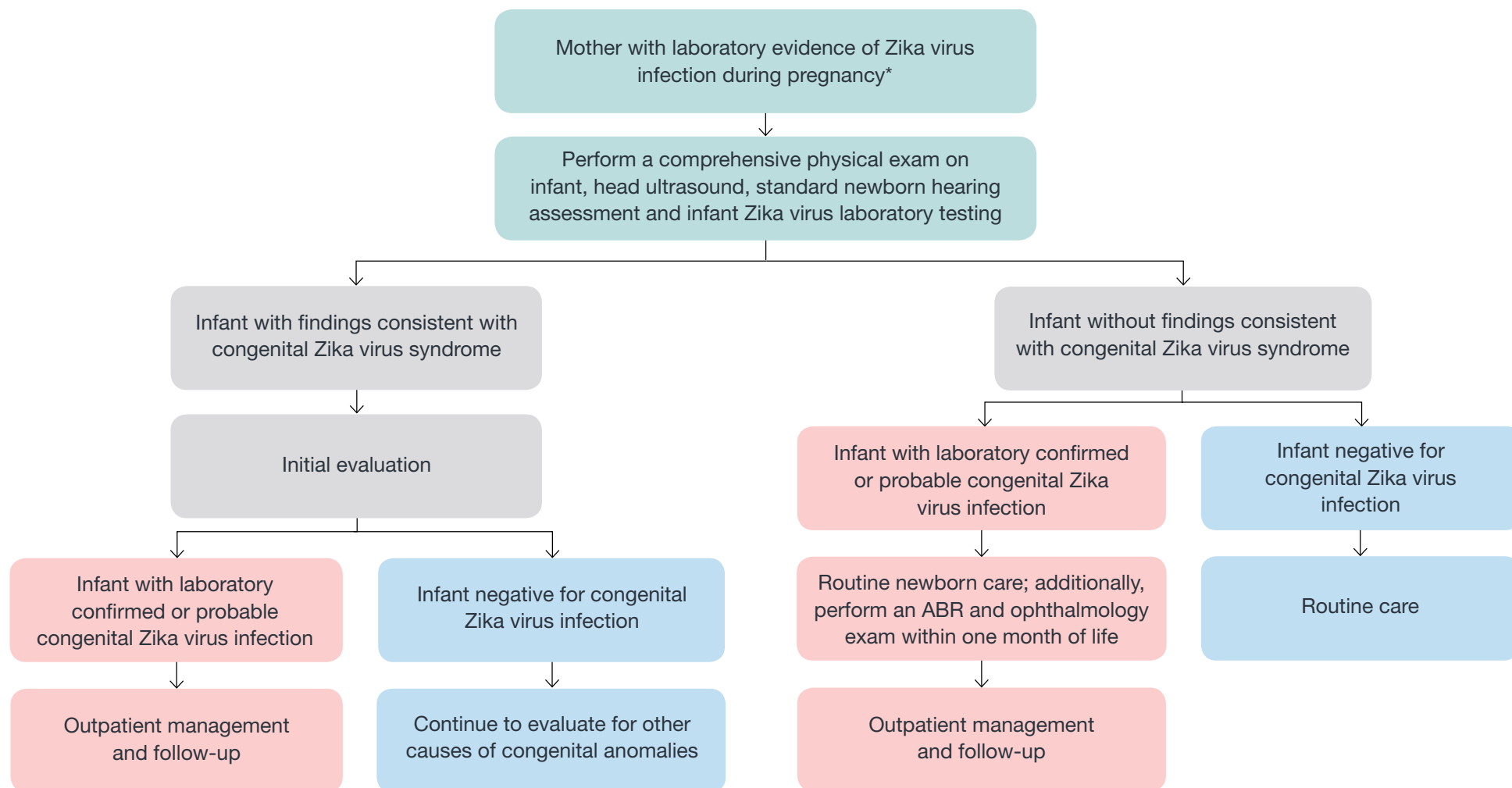
UTAH DEPARTMENT OF
HEALTH

Bureau of Epidemiology – 1-888-374-8824 | Utah Birth Defects Network – 1-866-818-7096

CDC's Response to **Zika** INTERIM GUIDANCE



Evaluation and testing of infants with possible congenital Zika virus infection



*Laboratory evidence of maternal Zika virus infection includes: (1) Zika virus RNA detected by real-time reverse transcription-polymerase chain reaction (rRT-PCR) in any clinical specimen; or (2) positive Zika virus immunoglobulin M (IgM) with confirmatory neutralizing antibody titers. Mother's should be tested by rRT-PCR within 2 weeks of exposure or symptom onset, or IgM within 2-12 weeks of exposure or symptom onset. Due to the decline in IgM antibody and viral RNA levels over time, negative maternal testing 12 weeks after exposure does not rule out maternal infection.

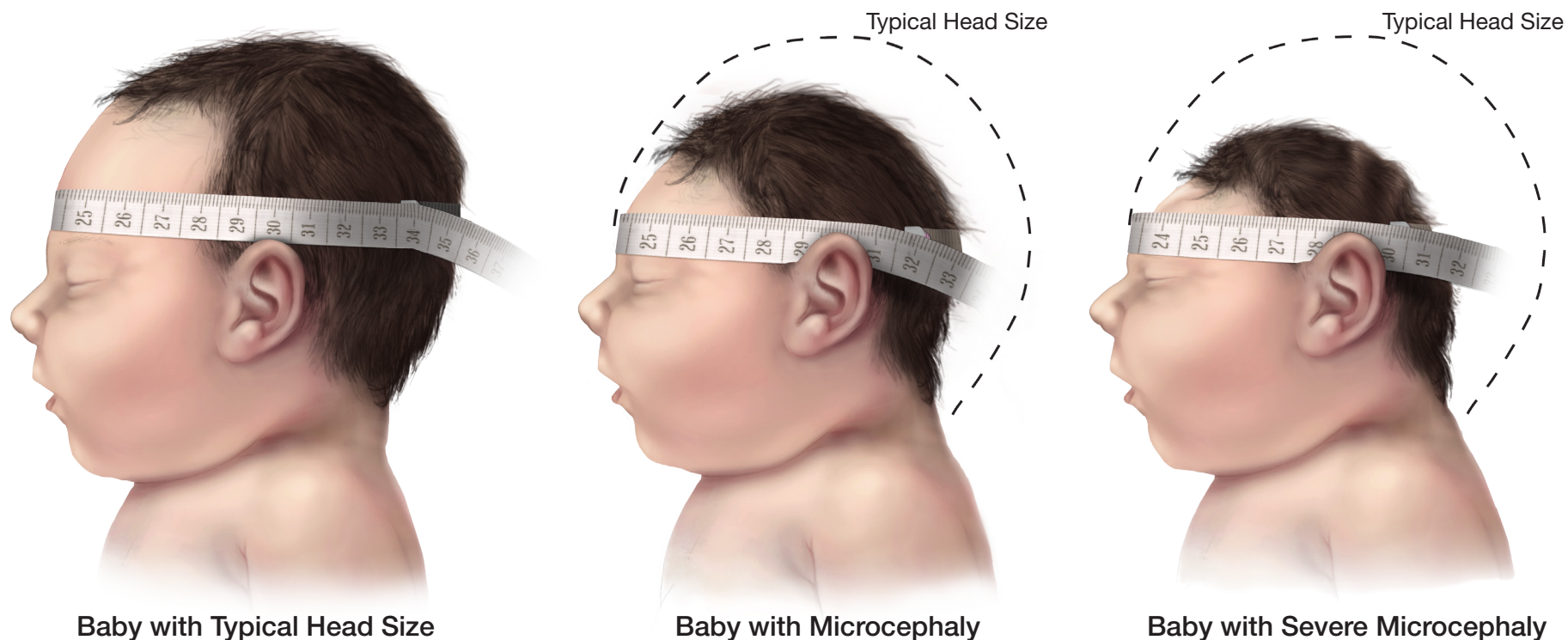
Abbreviation: ABR = auditory brainstem response.

More information on the evaluation, management, and follow-up of infants with possible congenital Zika virus infection is available at www.cdc.gov/zika/hc-providers/infants-children.html.



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention

MEASURING HEAD CIRCUMFERENCE



Baby with Typical Head Size

Baby with Microcephaly

Baby with Severe Microcephaly

- Use a measuring tape that cannot be stretched
- Securely wrap the tape around the widest possible circumference of the head
 - Broadest part of the forehead above eyebrow
 - Above the ears
 - Most prominent part of the back of the head
- Take the measurement three times and select the largest measurement to the nearest 0.1 cm
- Optimal measurement at 24-36 hours after birth when molding of the head has subsided



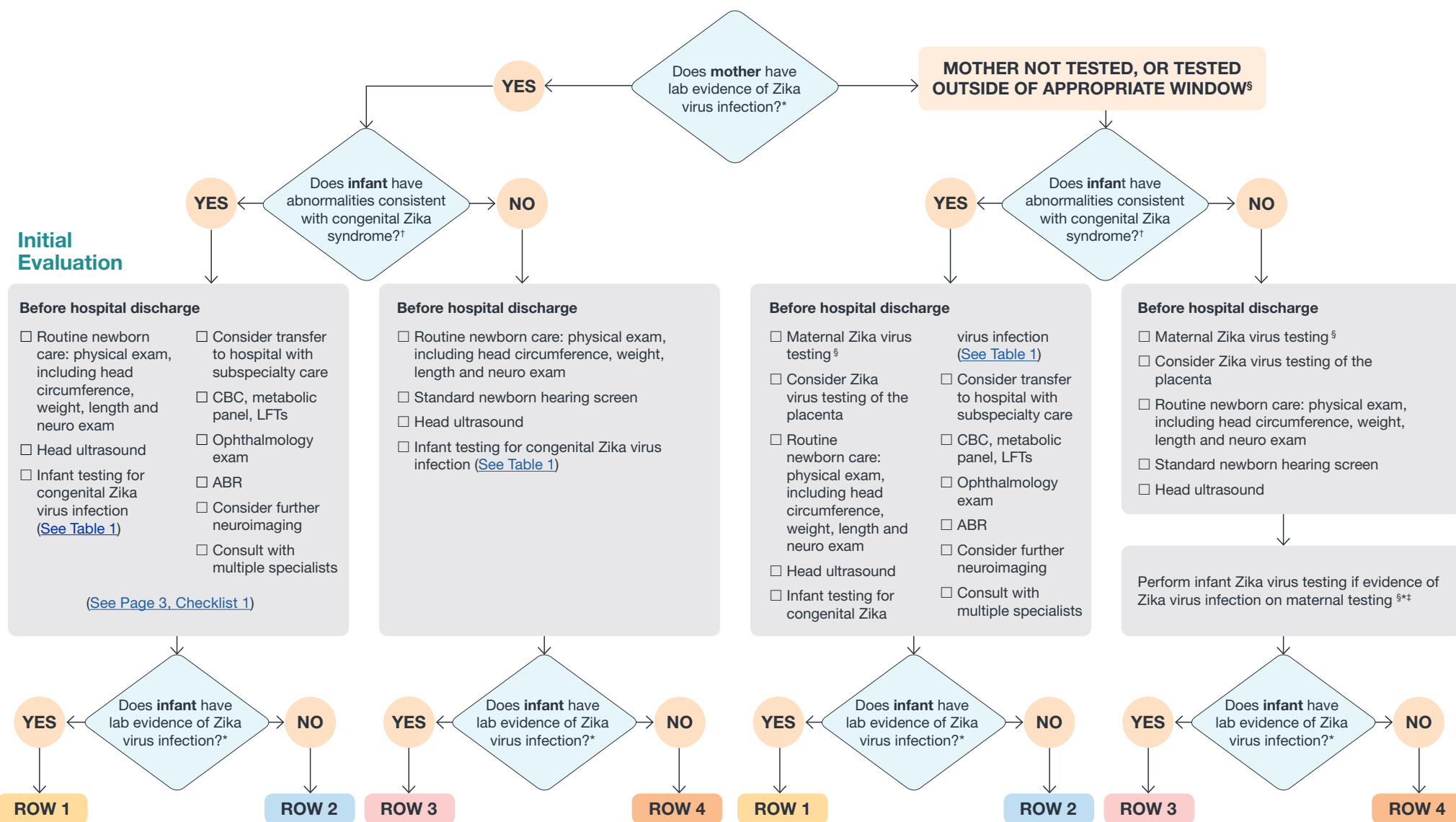
U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention

For more information: www.cdc.gov/zika



INITIAL EVALUATION AND OUTPATIENT MANAGEMENT

DURING THE FIRST 12 MONTHS OF LIFE FOR INFANTS WITH POSSIBLE CONGENITAL ZIKA VIRUS INFECTION



Follow management and follow-up recommendations indicated in Outpatient Management Checklist

Outpatient Management Checklist**

| | 2 weeks | 1 month | 2 months | 3 months | 4-6 months | 9 months | 12 months |
|--|---|-------------------------------------|-------------------------------------|---|--|--|-----------|
| ROW 1 Infant with abnormalities consistent with congenital Zika syndrome† and laboratory evidence of Zika virus infection* | <input type="checkbox"/> Thyroid screen (TSH & T4) | <input type="checkbox"/> Neuro exam | <input type="checkbox"/> Neuro exam | <input type="checkbox"/> Thyroid screen (TSH & T4) <input type="checkbox"/> Ophthalmology exam | <input type="checkbox"/> Repeat audiology evaluation (ABR) | | |
| | <input type="checkbox"/> Routine preventive health care including monitoring of feeding and growth <input type="checkbox"/> Routine and congenital infection-specific anticipatory guidance <input type="checkbox"/> Referral to specialists, including evaluation of other causes of congenital anomalies as needed <input type="checkbox"/> Referral to early intervention services (See Page 3, Checklist 2) | | | | | | |
| ROW 2 Infant with abnormalities consistent with congenital Zika syndrome† and negative for Zika virus infection | <input type="checkbox"/> Continue to evaluate for other causes of congenital anomalies <input type="checkbox"/> Further management as clinically indicated | | | | | | |
| ROW 3 Infant with no abnormalities consistent with congenital Zika syndrome† and laboratory evidence of Zika virus infection* | <input type="checkbox"/> Ophthalmology exam <input type="checkbox"/> ABR | | | | <input type="checkbox"/> Consider repeat ABR | <input type="checkbox"/> Behavioral audiology evaluation if ABR not done at 4-6 months | |
| | <input type="checkbox"/> Monitoring of growth parameters (HC, weight, and height), developmental monitoring by caregivers and health care providers, and age-appropriate developmental screening at well-child visits (See Page 3, Checklist 3) | | | | | | |
| ROW 4 Infant with no abnormalities consistent with congenital Zika syndrome† and negative for Zika virus infection | <input type="checkbox"/> Monitoring of growth parameters (HC, weight, and height), developmental monitoring by caregivers and health care providers, and age-appropriate developmental screening at well-child visits | | | | | | |

Abbreviations: rRT-PCR = real-time reverse transcription–polymerase chain reaction; IgM = immunoglobulin M; CBC = complete blood count; LFTs = liver function tests, PE = physical examination; US = ultrasound; ABR = auditory brainstem response; CT = computed tomography; MRI = magnetic resonance imaging; neuro = neurologic; HC = Head (occipitofrontal) circumference

* Laboratory evidence of Zika virus infection includes: (1) Zika virus RNA detected by real-time reverse transcription–polymerase chain reaction (rRT-PCR) in any clinical specimen; or (2) positive Zika virus IgM. Confirmatory neutralizing antibody titers are needed in addition to IgM for maternal Zika virus infection. Cord blood and testing of the placenta not recommended for infant testing for Zika virus.

** Outpatient management checklist for infants born to a woman with laboratory evidence of confirmed or possible Zika virus infection.

† Findings consistent with congenital Zika virus syndrome can include microcephaly, intracranial calcifications, or other brain or eye abnormalities.

§ Mothers who travelled to or reside in an area of active Zika transmission or who had unprotected sex with a partner who had traveled to or resided in an area with active transmission should be tested by rRT-PCR within 2 weeks of exposure or symptom onset, or IgM within 2-12 weeks of exposure or symptom onset. Because of the decline in IgM antibody and viral RNA levels over time, negative maternal testing 12 weeks after exposure or symptom onset does not rule out maternal infection.

‡ Infant testing is recommended within the first two days after birth; if testing is performed later, it can be difficult to distinguish congenital infection from perinatally or postnatally acquired infection.

TABLE 1

Interpretation of results of laboratory testing of infant's blood, urine and/or cerebrospinal fluid for evidence of congenital Zika virus infection

| Infant test results* | | Interpretation |
|----------------------|----------------------|---|
| rRT-PCR | IgM | |
| Positive | Positive or Negative | Confirmed congenital Zika virus infection |
| Negative | Positive | Probable congenital Zika virus infection ⁺ |
| Negative | Negative | Negative for congenital Zika virus infection ⁺ |

Abbreviations: rRT-PCR = real-time reverse transcription-polymerase chain reaction; IgM = Immunoglobulin M

* Infant serum, urine or cerebrospinal fluid.

+ Laboratory results should be interpreted in the context of timing of infection during pregnancy, maternal serology results, clinical findings consistent with congenital Zika syndrome, and any confirmatory testing with plaque reduction neutralization testing (PRNT).

CHECKLIST 1

Initial clinical evaluation & management of infants with laboratory evidence of Zika virus infection and abnormalities consistent with congenital Zika syndrome[†]

Consultation with:

- ☐ Neurologist for determination of appropriate neuroimaging and additional evaluation.
- ☐ Infectious disease specialist for diagnostic evaluation of other congenital infections (e.g. syphilis, toxoplasmosis, rubella, cytomegalovirus infection, lymphocytic choriomeningitis virus infection, and herpes simplex virus infection).
- ☐ Ophthalmologist for comprehensive eye exam and evaluation for possible cortical visual impairment prior to discharge from hospital or within 1 month of birth.
- ☐ Endocrinologist for evaluation for hypothalamic or pituitary dysfunction.
- ☐ Clinical geneticist to evaluate for other causes of microcephaly or other anomalies if present.

Consider consultation with:

- ☐ Orthopedist, physiatrist and physical therapist for the management of hypertonia, club foot or arthrogryptic-like conditions.
- ☐ Pulmonologist or otolaryngologist for concerns about aspiration.
- ☐ Lactation specialist, nutritionist, gastroenterologist, or speech or occupational therapist for the management of feeding issues.
- ☐ Perform ABR to assess hearing.
- ☐ Perform complete blood count and metabolic panel, including liver function tests.
- ☐ Provide family and supportive services.

CHECKLIST 2

Outpatient management of infants with laboratory evidence of Zika virus infection and abnormalities consistent with congenital Zika syndrome[†]

- ☐ A medical home should be established, and visits with primary care provider should occur monthly for at least the first 6 months of life.
 - ☐ Follow growth parameters, monitor development, encourage parents and other caregivers to monitor child's development, provide routine immunizations and anticipatory guidance, psychosocial support, and to ensure infants receive necessary testing and consultations.
- ☐ Neurologic examination by the primary care provider at 1 and 2 months of age. Refer to neurology for any abnormalities, or for any parental or provider concerns.
- ☐ Refer to developmental specialist and early intervention services.
- ☐ Repeat a comprehensive ophthalmologic exam at 3 months of age, and refer to ophthalmology for any abnormal findings, or for any parental or provider concerns.
- ☐ Repeat ABR testing at 4-6 months of age, and follow up on any abnormal findings, or for any parental or provider concerns.
- ☐ Repeat testing for hypothyroidism (i.e. TSH, total T4 and estimated free T4) at 2 weeks and 3 months of age, even if the initial testing was normal. Refer to endocrinology for any abnormal findings.
- ☐ Provide family and supportive services.

CHECKLIST 3

Outpatient management of infants with laboratory evidence of Zika virus infection, but without abnormalities consistent with congenital Zika syndrome[†]

- ☐ A medical home should be established.
 - ☐ Follow growth parameters, perform developmental monitoring at each well child visit and encourage parents and other caregivers to monitor child's development.
- ☐ Emphasize anticipatory guidance for families regarding developmental milestones, feeding and growth, sleep and irritability, and abnormal movements.
- ☐ Use a standardized, validated developmental screening tool at 9 months as currently recommended, or earlier for any parental or provider concerns.
- ☐ Referral to ophthalmology for comprehensive eye exam within one month of birth. Perform vision screening and assess visual regard at every well child visit, and refer to ophthalmology for any abnormal findings, or for any parental or provider concerns.
- ☐ Perform ABR within one month of birth. Perform behavioral diagnostic testing at 9 months of age, or consider repeat ABR at 4-6 months. Refer to audiology for any abnormal findings, or for any parental or provider concerns.
- ☐ Provide family and supportive services.

CHAMPION REPORTING FORM UTAH BIRTH DEFECTS NETWORK

Maternal Information

Name: _____ Birthday: _____

Delivery Hospital: _____ Hospital Chart #: _____

Infant Information

Name: _____ Birthday: _____

Primary Care Physician: _____ Sex: M F

- | | |
|---|--|
| <input type="checkbox"/> Neural Tube Defects | <input type="checkbox"/> Hypospadias/Epispadias |
| <input type="checkbox"/> Microcephaly | <input type="checkbox"/> Renal agenesis/dysgenesis |
| <input type="checkbox"/> Craniosynostosis | <input type="checkbox"/> Cystic Kidney |
| <input type="checkbox"/> Dandy-Walker Malformation | <input type="checkbox"/> Hydronephrosis |
| <input type="checkbox"/> Hydrocephalus | <input type="checkbox"/> Obstructive GU defects |
| <input type="checkbox"/> Holoprosencephaly | <input type="checkbox"/> Bladder Extrophy |
| <input type="checkbox"/> Anophthalmia/Microphthalmia | <input type="checkbox"/> Anotia/Microtia |
| <input type="checkbox"/> Congenital Cataract | <input type="checkbox"/> Diaphragmatic Hernia |
| <input type="checkbox"/> Aniridia | <input type="checkbox"/> Amniotic Bands |
| <input type="checkbox"/> Choanal Atresia | <input type="checkbox"/> Arthrogryposis |
| <input type="checkbox"/> Lung Agenesis/hypoplasia | <input type="checkbox"/> Limb Reduction Defect |
| <input type="checkbox"/> Oral Facial Cleft | <input type="checkbox"/> Abdominal Wall Defect |
| <input type="checkbox"/> Gastrointestinal Defects: TE Fistula Esophageal atresia Intestinal atresia/stenosis Hirschsprungs Biliary atresia | <input type="checkbox"/> Skeletal Dysplasia |
| <input type="checkbox"/> Pyloric Stenosis | <input type="checkbox"/> Chromosome Defect: _____ |
| | <input type="checkbox"/> Other CNS Malformations |
| | <input type="checkbox"/> Other/Code: _____ |

Reporting Source: _____ Date: _____



UTAH DEPARTMENT OF
HEALTH

Utah Birth Defect Network

P.O.Box 144693
Salt Lake City, Utah 84114-4693
801-883-4661
Fax: 801-883-4668



State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Utah Department of Health

Joseph K. Miner, M.D., MSPH, FACPM
Executive Director

Division of Family Health and Preparedness

Marc E. Babitz, M.D.
Division Director

Children with Special Health Care Needs Bureau

Noël Taxin, M.S.
Bureau Director

R398. Health, Family Health and Preparedness, Children with Special Health Care Needs.

R398-5. Birth Defects Reporting.

R398-5-1. Purpose and Authority.

This rule establishes reporting requirements for birth defects and stillbirths in Utah and for related test results. Sections 26-1-30(2)(c), (d), (e), (g), (p), (t), 26-10-1(2), and 26-10-2 authorize this rule.

R398-5-2. Definitions.

As used in this rule:

- (1) "Birthing center" means a birthing center licensed under Title 26, Chapter 21.
- (2) "Birth defect" means any medical disorder of organ structure, function or biochemistry which is of possible genetic or prenatal origin. This includes any congenital anomaly, indication of hypoxia or genetic metabolic disorder listed in the ICD-9-CM (International Classification of Diseases, 9th Revision, Clinical Modification, established by the United States Center for Health Statistics) with any of the following diagnostic codes: 243, 255.2, 255.4, from 269.2 to 279.9, from 740.0 to 759.9; and from 768.0 to 768.9; or listed in the ICD-10 (International Classification of Diseases, 10th Revision, established by the World Health Organization) with any of the following diagnostic codes: E03, E25, from E70 to E90, from D55 to D58, J96.00 to J96.91, P09, and from Q00-Q99.
- (3) "Hospital" means general acute hospital, children's specialty hospital, remote-rural hospital licensed under Title 26, Chapter 21.
- (4) "Stillbirth" means a pregnancy resulting in a fetal death at 20 weeks gestation or later.
- (5) "Clinic" means physician-owned or operated clinic that regularly provide services for the diagnosis or treatment of birth defects, genetic counseling, or prenatal diagnostic services.

R398-5-3. Reporting by Hospitals and Birthing Centers.

Each hospital or birthing center that admits a patient and detects or screens for a birth defect as a result of any outcome of pregnancy, or admits a child under 24 months of age with a birth defect, or is presented with the event of a stillbirth shall report or cause to report to the department within 40 days of discharge the following:

- (1) if live born, child's name;
- (2) child's date of birth (or date of delivery);
- (3) mother's name;
- (4) mother's date of birth;
- (5) delivery hospital;
- (6) birth defects and hypoxia/hypoxemia diagnoses;
- (7) pulse oximetry results for all initial and repeat screenings, including limb location;
- (8) mother's state of residency at delivery;
- (9) child's sex; and
- (10) mother's zip code.

R398-5-4. Reporting by Laboratories.

Each laboratory operating in the state that identifies a human chromosomal or genetic abnormality or other evidence of a birth defect shall report the following on a calendar quarterly basis to the department within 40 days of the end of the preceding calendar quarter:

- (1) if live born, child's name and date of birth;
- (2) mother's name;
- (3) mother's date of birth;
- (4) date the sample is accepted by the laboratory;
- (5) test conducted;
- (6) test result; and
- (7) mother's state of residency at delivery.

R398-5-5. Record Abstraction.

Hospitals, birthing centers, and clinics as well as community health care providers shall allow personnel from the department or its contractors to abstract information from the mother's and child's files on their demographic characteristics, family history of birth defects, prenatal and postnatal procedures or treatments (including diagnostics) related to the birth defect or stillbirth, and outcomes of that and other pregnancies by that mother. Hospitals, birthing centers, and clinics as well as community health care providers shall allow personnel from the department or its contractors to abstract information from the affected child's files, throughout their lifespan.

R398-5-6. Liability.

As provided in Title 26, Chapter 25, persons who report, either voluntarily or as required by this rule, information covered by this rule may not be held liable for reporting the information to the Department of Health.

R398-5-7. Penalties.

Pursuant to Section 26-23-6, any person that willfully violates any provision of this rule may be assessed an administrative civil money penalty not to exceed \$1,000 upon an administrative finding of a first violation and up to \$3,000 for a subsequent similar violation within two years. A person may also be subject to penalties imposed by a civil or criminal court.

KEY: birth defects, birth defect reporting

Date of Enactment or Last Substantive Amendment: July 31, 2012

Notice of Continuation: September 28, 2009

Authorizing, and Implemented or Interpreted Law: 26-1-30(2)(c), (d), (e), (g), (p), (t); 26-10-1(2); 26-10-2; 26-25-1



IV. Resources and References



Bureau of Epidemiology – 1-888-374-8824 | Utah Birth Defects Network – 1-866-818-7096

Resources and References

Utah Department of Health

- Bureau of Epidemiology
Phone: 801-538-6191
24-Hour Urgent Event & Disease Reporting
1-888-EPI-UTAH (374-8824)
- Utah Birth Defects Network
Children with Special Health Care Needs
1-866-818-7096
- Mother to Baby- Utah
Pregnancy Risk Line
1-866-626-6847

Name of Hospital

Main Hospital Phone Number

County and Health Department

Phone Number



Bureau of Epidemiology – 1-888-374-8824 | Utah Birth Defects Network – 1-866-818-7096

KEY ZIKA CONSIDERATIONS FOR HEALTHCARE SETTINGS



Background

Zika is a mosquito-borne disease that is currently spreading throughout many countries and territories, including a small area in the continental United States. CDC recommends that healthcare systems (including urgent care, hospitals, physician offices, etc.) prepare for patients seeking a diagnosis and /or symptom management.

CDC continues to evaluate cases of Zika in the United States and US territories and updates guidance as new information becomes available. For more information, visit CDC's Zika website (www.cdc.gov/zika/index.html).



Purpose

In order to prepare for Zika patients coming to your clinics, hospital, or physicians' offices, healthcare systems leaders should ensure the following:

- 1. Healthcare providers** should know the clinical manifestation of Zika virus infection and how to access information about areas with active transmission. Clinicians should be able to assess for risk factors and exposures* to Zika virus when evaluating patients. It is important that providers are aware that people with Zika virus infection can be asymptomatic or mildly symptomatic, and therefore providers should consider Zika virus disease in the differential diagnosis for patients with appropriate risk factors.
- 2. Healthcare providers** should assess all pregnant women for possible Zika virus exposure* and evaluate for signs and symptoms of Zika virus disease at every clinical encounter. Testing may be indicated. (Updated Interim Pregnancy Guidance Testing Algorithm: www.cdc.gov/zika/pdfs/testing_algorithm.pdf) The Zika Pregnancy Hotline can be accessed by clinicians for questions; call 770-488-7100 and ask for the Pregnancy Hotline.
- 3. Healthcare providers** should advise pregnant women about how to prevent sexual transmission of Zika during pregnancy. (www.cdc.gov/zika/prevention/protect-yourself-during-sex.html)
- 4. Discuss preventive measures** with patients and families. Provide materials with information about risk factors to encourage the use of mosquito bite prevention actions. Patients should protect themselves from mosquito bites for 3 weeks post exposure to prevent further spread of the virus. Emphasize risks to families and household contacts as these are at the greatest risk for human-mosquito-human transmission.
- 5. All healthcare personnel** should follow Standard Precautions for all patient care (www.cdc.gov/hicpac/pdf/isolation/Isolation2007.pdf).
- 6. Healthcare providers** caring for pregnant women should be aware of the requirement for Standard Precautions to be used for labor and delivery care. (www.cdc.gov/mmwr/volumes/65/wr/mm6511e3.htm)
- 7. Internal and external hospital websites** should include a link to (www.cdc.gov/zika/index.html) CDC's Zika website to ensure that all staff have access to the most up-to-date guidance and other training and clinical resources.
- 8. Appropriate healthcare staff** should report suspected cases to state or local health departments to facilitate diagnosis.
- 9. Healthcare personnel** should report all pregnant women with laboratory evidence of possible Zika virus infection, with or without symptoms, as well as infants born to these women, to state, tribal, territorial, or local health department officials for enrollment in the US Zika Pregnancy Registry (www.cdc.gov/zika/hc-providers/registry.html).



**U.S. Department of
Health and Human Services**
Centers for Disease
Control and Prevention

Other Considerations

Healthcare systems, urgent care centers, and physician's offices are among the places where patients and visitors expect to see and hear health information. CDC recommends that easy-to-understand educational materials be widely available within healthcare systems for all providers, employees, patients, families, and visitors. **These materials should:**



Encourage pregnant women to avoid travel to areas with Zika and to take steps to prevent mosquito bites.



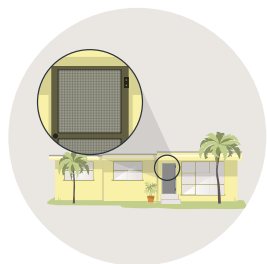
Take steps to prevent getting Zika through sex (i.e., use a condom or other barrier against infection).



Wear long-sleeved shirts and long pants.



Encourage patients to contact their healthcare provider if they have other questions about Zika.



Stay in places with air conditioning and window and door screens to keep mosquitoes outside.



Encourage patients and family members to practice simple but effective measures to control mosquitoes at home.



Treat clothing and gear with permethrin or buy pre-treated items.



Reducing larval development sites by dumping out small water containers and covering larger water containers are easy ways to reduce the number of mosquitoes around the home.
www.cdc.gov/zika/vector/index.html

Additional information can be found at: www.cdc.gov/zika/hc-providers/index.html

*Exposure includes travel to an area with Zika and sex without a condom or other barrier protection with a partner who lives in or has traveled to an area with Zika.