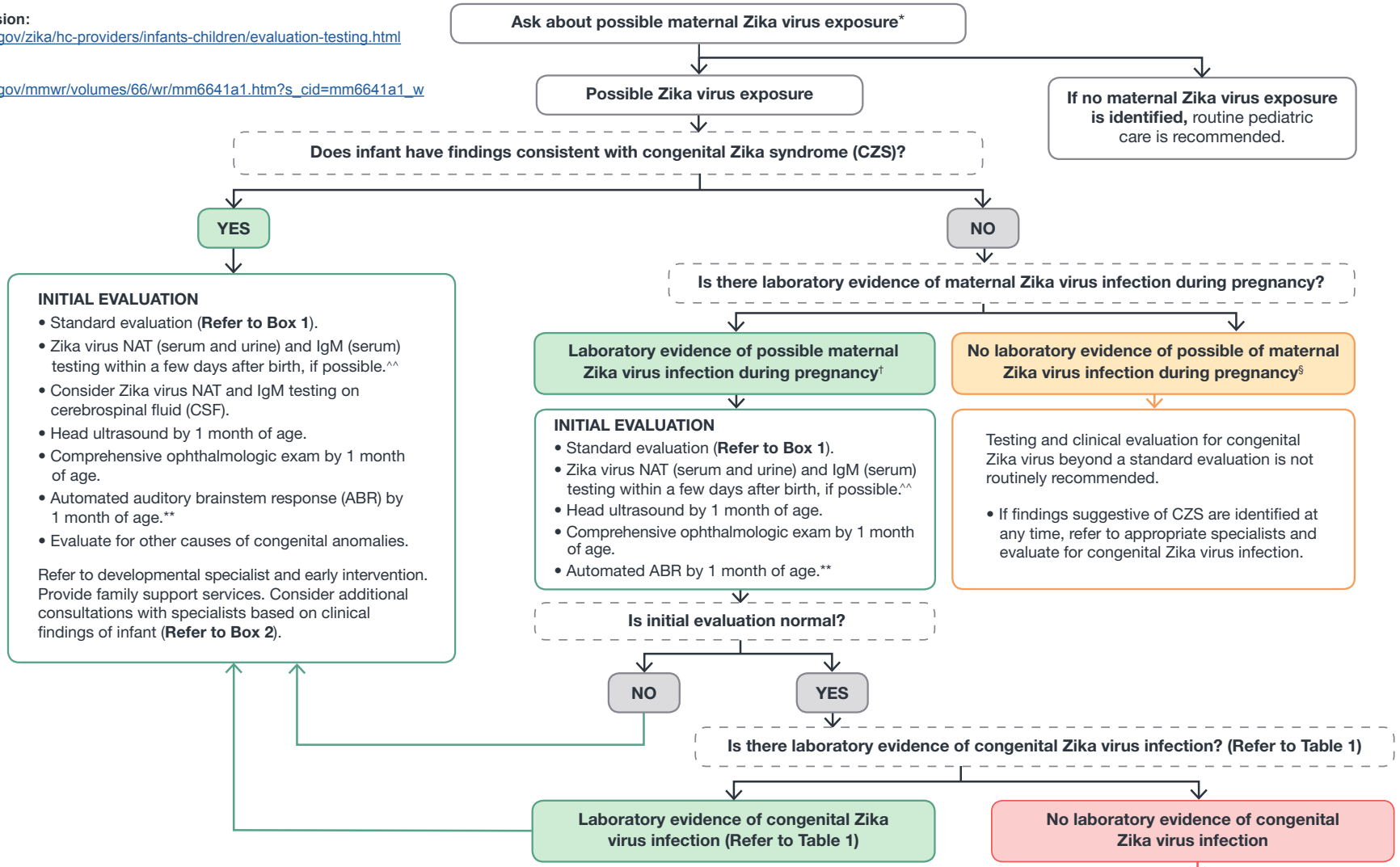
EVALUATION FOR INFANTS WITH POSSIBLE CONGENITAL ZIKA VIRUS INFECTION

Accessible Version:
https://www.cdc.gov/zika/hc-providers/infants-children/evaluation-testing.html

MMWR:
https://www.cdc.gov/mmwr/volumes/66/wr/mm6641a1.htm?s_cid=mm6641a1_w



* Possible Zika virus exposure includes travel to, or residence in an area with mosquito-borne Zika virus transmission or sex without the use of condoms with a partner who has traveled to or resides in an area with mosquito-borne Zika virus transmission

† Laboratory evidence of possible Zika virus infection during pregnancy is defined as 1) Zika virus infection detected by a Zika virus RNA NAT on any maternal, placental, or fetal specimen (referred to as NAT-confirmed), or 2) diagnosis of Zika virus infection, timing of infection cannot be determined or unspecified flavivirus infection, timing of infection cannot be determined by serologic tests on a maternal specimen (i.e., positive/equivocal Zika virus IgM and Zika virus PRNT titer ≥10, regardless of dengue virus PRNT value; or negative Zika virus IgM, and positive or equivocal dengue virus IgM, and Zika virus PRNT titer ≥10, regardless of dengue virus PRNT titer). The use of PRNT for confirmation of Zika virus infection, including in pregnant women, is not routinely recommended in Puerto Rico (https://www.cdc.gov/zika/laboratories/lab-guidance.html).

§ This group includes women who were never tested during pregnancy as well as those whose test result was negative because of issues related to timing or sensitivity and specificity of the test. Because the latter issues are not easily discerned, all mothers with possible exposure to Zika virus during pregnancy who do not have laboratory evidence of possible Zika virus infection, including those who tested negative with currently available technology, should be considered in this group.

** Automated ABR by 1 month of age if newborn hearing screen passed but performed with otoacoustic emission (OAE) methodology

^^ If CSF is obtained for other purposes, Zika virus NAT and IgM antibody testing should be performed on CSF.

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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*		
NAT	**IgM**	**Interpretation**
Positive	Any result	Confirmed congenital Zika virus infection†
Negative	Nonnegative§	Probable congenital Zika virus infection¶,**
Negative	Negative	Congenital virus infection unlikely ¶,††

Abbreviations: NAT = nucleic acid test; IgM = immunoglobulin M

*Infant serum, urine, or cerebrospinal fluid.

† Distinguishing between congenital and postnatal infection is difficult in infants who live in areas where there is ongoing transmission of Zika virus and who are not tested soon after birth. If the timing of infection cannot be determined, infants should be evaluated as if they had congenital Zika virus infection.

§ Nonnegative serology terminology varies by assay and might include "positive," "equivocal," "presumptive positive," or "possible positive." For explanation of a specific interpretation, refer to the instructions for use for the specific assay performed.

¶ 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.

**A negative Zika virus plaque reduction neutralization test suggests that the infant's Zika virus IgM test is a false positive.

†† Congenital Zika virus infection is unlikely if specimens are collected within the first few days after birth and the clinical evaluation is normal; however, health care providers should remain alert for any new findings of congenital Zika virus infection.

BOX 1. Standard evaluation recommended at birth and during each well visit for all infants with possible congenital Zika virus exposure during pregnancy

- Comprehensive physical exam, including growth parameters
- Developmental monitoring and screening using validated screening tools recommended by the American Academy of Pediatrics (https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/Screening/Pages/Screening-Tools.aspx)
- Vision screening as recommended by the American Academy of Pediatrics Policy Statement "Visual System Assessment in Infants, Children, and Young Adults by Pediatricians" (www.pediatrics.org/cgi/doi/10.1542/peds.2015-3596)
- Newborn hearing screen at birth, preferably with automated auditory brainstem response

BOX 2. Consultations for infants with clinical findings consistent with congenital Zika syndrome

- **Consider consultation with the following specialists:**
  - Infectious disease specialist for evaluation for other congenital infections (e.g., toxoplasmosis, syphilis, rubella, cytomegalovirus, or herpes simplex virus) and assistance with Zika virus diagnosis, testing, and counseling
  - Neurologist by age 1 month for comprehensive neurologic examination and consideration for other evaluations such as advanced neuroimaging and EEG
  - Ophthalmologist for comprehensive eye exam by age 1 month
  - Clinical geneticist for confirmation of the clinical phenotype and evaluation for other causes of microcephaly or congenital anomalies
  - Early intervention and developmental specialists
  - Family and supportive services
- **Additional possible consultations, based on clinical findings of the infant:**
  - Endocrinologist for evaluation of hypothalamic or pituitary dysfunction and consideration for thyroid testing
  - Lactation specialist, nutritionist, gastroenterologist or speech or occupational therapist for evaluation for dysphagia and management of feeding issues
  - Orthopedist, physiatrist, or physical therapist for the management of hypertonia, clubfoot or arthrogrypotic-like conditions
  - Pulmonologist or otolaryngologist for concerns about aspiration