Interim algorithm¹ for assessing pregnant women with a history of travel during pregnancy to areas with active Zika virus (ZIKV) transmission²

Pregnant woman with history of travel during pregnancy to an area with active ZIKV transmission³

- Pregnant woman reports clinical illness consistent with ZIKV disease during or within two weeks of travel⁴
  - Currently symptomatic
    - Submit serum, EDTA plasma and urine samples for testing at RIPL⁵
      - Positive (or inconclusive) ZIKV PCR result(s)
  - Symptoms resolved
    - Negative ZIKV PCR result(s)⁶
      - Baseline fetal ultrasound and refer to fetal medicine service for further evaluation and follow up⁸
  - Offer baseline fetal ultrasound⁷. (If ultrasound normal, consider repeating every four weeks through pregnancy)

Pregnant woman does NOT report clinical illness consistent with ZIKV disease during or within two weeks of travel⁴

- If abnormal ultrasound findings (e.g., small head⁹ or intracranial calcifications¹⁰) or additional concerns, refer to fetal medicine service

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Notes

1. Interim guidance will be updated as more information becomes available. Currently this algorithm applies to women in all stages of pregnancy although based on information available from Brazil and experience from other congenital infections (such as CMV, *rubella* and toxoplasmosis), infection in early pregnancy is likely to be the greatest risk.

2. Laboratory testing is performed by the PHE Rare and Imported Pathogens Laboratory (RIPL). Given the overlap of symptoms and endemic areas with other viral and bacterial infections, RIPL will routinely test symptomatic pregnant women returning from ZIKV areas for dengue, chikungunya and other infections as well as ZIKV. ZIKV testing will be performed exclusively using real-time PCR rather than any serology test.


4. Clinical illness is consistent with Zika virus disease if two or more symptoms (acute onset of fever, maculopapular rash, arthralgia, or conjunctivitis) are present. However, testing can also be considered for pregnant women with acute onset of symptoms within two weeks of travel to an area with ZIKV transmission that are not explained by other common infectious causes (eg URTI, UTI).

5. The samples required are a clotted blood (or serum), an EDTA ‘purple top’ blood (or plasma) and a small volume of urine without preservative. The samples must be submitted with the RIPL request form, [https://www.gov.uk/government/publications/rare-and-imported-pathogens-testing-form-to-submit-sample](https://www.gov.uk/government/publications/rare-and-imported-pathogens-testing-form-to-submit-sample). The form must clearly state both the travel history (ie which countries visited and the dates of the outward and return journeys) and the clinical details (ie the patient’s symptoms and the date of illness onset). This is so that the appropriate investigations can be performed and their results correctly interpreted.

6. If an alternative diagnosis is made there is no need for further ZIKV-specific follow up.

7. For women without a clinical illness, taking and storing a clotted serum sample locally is recommended.

8. This evaluation and follow-up is likely to include repeat fetal ultrasound at four weekly intervals, and consideration of fetal MRI. Abnormal fetal findings will prompt appropriate investigation including, for example, submission of booking and current serum samples for toxoplasma, rubella, parvovirus and CMV serology. Amniocentesis may be considered for Zika virus PCR.

9. In this context, ‘small fetal head’ is defined as: Head Circumference more than 2 Standard Deviations below the mean for gestational age, ie below the 2.5th centile.

10. Apart from microcephaly and intracranial calcifications, other brain abnormalities that have been reported in association with ZIKV infection are ventriculomegaly, cell migration abnormalities (eg lissencephaly, pachygyria), arthrogryposis (congenital contractures) secondary to central or peripheral nervous system involvement.

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