Zika virus: Interim guidance Information for LMCs (midwives), 
GPs and other health professionals dealing with Zika virus in 
pregnancy – 5 February 2016

What is Zika virus?

Zika virus (ZV) is a mosquito-borne flavivirus, related to the dengue virus. Cases of ZV have 
been reported in Africa, southern Asia and the Pacific Islands. In 2015, ZV outbreaks 
spread throughout the tropical and sub-tropical areas of the Americas as far north as Mexico 
and Puerto Rico.

How is ZV transmitted?

In New Zealand, ZV is a travel related infection transmitted through the bite of an infected 
Aedes mosquito. These mosquitoes are aggressive daytime biters feeding most actively 
early in the morning and late in the afternoon and both indoors and outdoors. Aedes 
mosquitos that are able to transmit arboviral diseases such as Zika virus are not found in 
New Zealand.

There are concerns that pregnant women who become infected with ZV can transmit the 
disease to their unborn babies, with potentially serious consequences. It is unclear how 
frequently transmission occurs. There have been reports from several countries, most 
notably Brazil, demonstrating an increase in the rate of severe fetal birth defects and poor 
pregnancy outcomes in babies whose mothers were infected with ZV while pregnant.

ZV has been detected in semen, and rare cases of possible sexual transmission have been 
reported, however more evidence is needed around sexual transmission. Until more is 
known it may be prudent for males to use condoms for four weeks after return from travel to 
an affected country, even in the absence of symptoms. If someone has experienced 
symptoms of Zika virus or has had a confirmed zika virus infection, recommendations from 
Public Health England recommend that condoms should be used for up to six months from 
visiting an affected area. 
https://www.gov.uk/guidance/zika-virus

Who is at risk of being infected?

Those living in or travelling to an area where ZV is found who have not been infected with 
for information on areas that have the ZV.

Incubation period and symptoms of ZV infection?

Only 1 in 5 people infected with the ZV develop symptoms. The incubation period is typically 
3-12 days. The symptoms where present are usually mild and last for several days to one 
week. Symptoms include:

- low-grade fever
- arthralgia, notably of small joints of hands and feet, with possible swollen joints
- myalgia
- headache, retro-ocular headaches
- conjunctivitis
- cutaneous maculopapular rash
As ZV infection may cause a rash that could be confused with diseases such as measles, rubella, chikungunya and dengue, these other diseases need to be ruled out. Diagnosis of ZV infection will first and foremost be based on symptoms, travel history and exclusion of other diseases.

Serious complications from ZV infection are uncommon. Reports from several countries, most notably Brazil, show that there has been an increase in severe birth defects and poor pregnancy outcomes in babies whose mothers were living in areas while pregnant where Zika virus infections were occurring.

There are also concerns that ZV infection can, in rare instances, lead to Guillain-Barré syndrome, a serious neurological disorder.

**What types of testing for ZV are available to test pregnant women?**

Reverse-transcriptase PCR (RT-PCR) can be used to detect the ZV during the first one week (in blood) to two weeks (in urine) of the illness. This RT-PCR test is currently performed in Wellington at ESR and Auckland at Labplus with an expected turnaround time of 2 working days.

Serology is less reliable due to potential cross reaction with antibodies against other similar viruses (including dengue). This makes it difficult to differentiate ZV infection using antibody testing alone. For this reason, ZV serology is not recommended at this time as part of the algorithm for assessing pregnant women with a history of travel to areas with active ZV transmission. If Zika serology is being requested a discussion with a microbiologist needs to occur prior to testing.

ZV RT-PCR can also be performed on amniotic fluid although it is not currently known how sensitive or specific this test is for congenital infection. The likelihood of an infected fetus developing a fetal abnormality is not known at this time.

**What is known about the effects of ZV on pregnant women?**

The course of the disease is similar to that in the general population. There is no evidence to suggest that pregnant women are more susceptible or experience more severe disease during pregnancy.

**Is there any association between ZV infection and congenital microcephaly?**

There have been reports of congenital microcephaly in babies of women who were infected with ZV while they were pregnant. Several infants with microcephaly have had ZV confirmed. It is not known how many of the microcephaly cases are associated with ZV infection.

It is particularly important to understand that the cases of microcephaly have been seen in countries with very widespread transmission. The risk to short term travellers is likely to be very low, particularly as it is not yet known what proportion of pregnant women infected with ZV transmit the virus to the fetus, and what proportion of infected fetuses are severely affected. Studies are underway to investigate the association of ZV infection and microcephaly.
Why is fetal ultrasound recommended?

Fetal ultrasound is usually performed at 18-20 weeks to assess fetal anatomy. Microcephaly and intracranial calcifications can be detected then, or later in pregnancy. Additional ultrasounds are recommended for pregnant women who have travelled to an area with ZV transmission in order to detect possible fetal abnormalities, and to allow for further management as required. The number of pregnant women who will require additional ultrasounds is not expected to be high and this may also help to reassure those at-risk pregnant women.

When is fetal ultrasound recommended?

Pregnant women with a history of travel to an area with ZV transmission and who have not experienced clinical symptoms or have negative PCR test results can be offered ultrasound scanning in the community at an appropriate time for detection of microcephaly or intracranial calcifications. A suggested regime is 4 weekly scans after 24 weeks gestation.

How can ZV infection be prevented?

Until more is known, the Ministry of Health recommends that women who are pregnant or plan to become pregnant in the near term consider delaying travel to areas with ZV present. If travel is essential, consider delaying pregnancy if travelling to these areas. If travelling in Zika infected areas, women who are pregnant or plan to become pregnant should consult with their healthcare provider and take all precautions to avoid mosquito bites, including:

- Wear long-sleeved shirts and long pants
- Use insect repellents containing DEET, picaridin, oil of lemon eucalyptus (OLE), or IR3535. Always use as directed.
- Insect repellents containing DEET, picaridin, and IR3535 are safe for pregnant and nursing women and children older than 2 months when used
- According to the product label. Oil of lemon eucalyptus products should not be used on children under 3 years of age.
- If you use both sunscreen and insect repellent, apply the sunscreen first and then the repellent.
- Use permethrin-treated clothing and gear (such as boots, pants, socks, and tents).
- Use bed nets as necessary
- Stay and sleep in screened-in or air-conditioned rooms.
- Be particularly vigilant for the 2 hours after sunrise and the two hours before sunset.
Interim testing and referral algorithm for pregnant women

Pregnant women with high risk of exposure – travel to a country with confirmed transmission?

- Presents within 2 weeks of travel
  - Symptoms of ZV
    - Discuss with microbiologist/ID physician
      Full work up for exanthema
    - RT-PCR* Urine and blood
      - positive
        - Refer to regional FM specialist
      - negative
        - Refer to regional FM specialist
  - No symptoms of ZV
    - RT-PCR* Urine and blood
      - positive
        - Refer to regional FM specialist
      - negative
        - Follow up ultrasounds in community
          Scanning frequency 4 weekly from 20 weeks gestation

- Presents more than 2 weeks after travel
  - RT-PCR* Urine and blood
    - positive
      - Refer to regional FM specialist
    - negative
      - *Sample requirements:
        Blood - 2 x 5 mL SST tubes (gold cap)
        Urine – 50 mL

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