

# Zika virus: Interim guidance information for LMCs (midwives), GPs and other health professionals dealing with Zika virus in pregnancy

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This interim guidance is the result of consultation with members of the following professional groups via a Technical Advisory Group; the Ministry of Health, the New Zealand Maternal Fetal Medicine Network, the Royal Australian and New Zealand College of Obstetricians and Gynaecologists, the New Zealand Microbiology Network, the Institute of Environmental Science and Research, the New Zealand Royal College of GPs, New Zealand College of Midwives, the Royal Australian and New Zealand College of Radiologists.

**This is a rapidly evolving situation. Please ensure that you check the Ministry of Health website for up-to-date information.**

## What is Zika virus?

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

## How is Zika virus transmitted

In New Zealand, Zika virus 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 Zika virus 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 Zika virus while pregnant.

Zika virus has been detected in semen, and rare cases of possible sexual transmission have been reported, however more evidence is needed around sexual transmission.

## **Who is at risk of being infected?**

Those living in or travelling to an area where Zika virus is found who have not been infected with the virus before. Please visit <http://www.cdc.gov/zika/geo/index.html> for information on areas that have the Zika virus.

## **Incubation period and symptoms of Zika virus infection?**

Only 1 in 5 people infected with the Zika virus 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 Zika virus 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 Zika virus infection will first and foremost be based on symptoms, travel history and exclusion of other diseases.

Serious complications from Zika virus 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 Zika virus infection can, in rare instances, lead to Guillain-Barré syndrome, a serious neurological disorder.

## **What types of testing for Zika virus are available to test pregnant women?**

Reverse -transcriptase PCR (RT-PCR) can be used to detect the Zika virus 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 Zika virus infection using antibody testing alone. For this reason, Zika virus 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 Zika virus transmission. If Zika serology is being requested a discussion with a microbiologist needs to occur prior to testing

Zika virus 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 Zika virus 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 Zika virus infection and congenital microcephaly?**

There have been reports of congenital microcephaly in babies of women who were infected with Zika virus while they were pregnant. Several infants with microcephaly have had Zika virus confirmed. It is not known how many of the microcephaly cases are associated with Zika virus 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 Zika virus transmit the virus to the fetus, and what proportion of infected fetuses are severely affected. Studies are underway to investigate the association of Zika virus 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 Zika virus 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 Zika virus 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 Zika virus 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 Zika virus 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 breastfeeding 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

We also advise that women who have travelled to an affected country without their partner use appropriate contraception for four weeks to avoid pregnancy. However, if the partner has also travelled to an affected country then see advice on sexual transmission of Zika virus.

# Sexual transmission

There is only limited information available from which to estimate the risk of sexual transmission of Zika virus from man to women, but the risk is considered to be low when compared to the risk of transmission from infected mosquitoes. The following advice is given due to the potentially serious implications of transmission of Zika virus to a pregnant women:

- Men (asymptomatic or symptomatic), who have travelled to a Zika affected area and have a pregnant partner are advised to abstain from sexual activity (vaginal/anal/oral) or use condoms (males or female) for the duration of pregnancy
- Men (asymptomatic or symptomatic) who have travelled to a Zika affected area should be advised to abstain from sexual activity (vaginal/anal/oral) or use condoms with any partner at risk of becoming pregnant. Based on the limited information available to date<sup>1</sup> international guidance with regards to timeframes for abstaining from sexual activity or practicing safe sex ranges from, at least 4 weeks (WHO<sup>2</sup>) to 3 months (Australia<sup>3</sup>) to 6 months (ECDC<sup>4</sup> and Public Health England<sup>5</sup>) to no specific duration mentioned (CDC).

Advice from WHO: <http://www.who.int/csr/resources/publications/zika/sexual-transmission-prevention/en/>

Advice from Australia: <http://www.health.gov.au/internet/main/publishing.nsf/Content/ohp-zika-sex-transmission.htm>

Advice from ECDC:

[http://ecdc.europa.eu/en/publications/\\_layouts/forms/Publication\\_DispForm.aspx?List=4f55ad51-4aed-4d32-b960-af70113dbb90&ID=1434](http://ecdc.europa.eu/en/publications/_layouts/forms/Publication_DispForm.aspx?List=4f55ad51-4aed-4d32-b960-af70113dbb90&ID=1434)

Advice from Public Health England: <https://www.gov.uk/guidance/zika-virus>

Advice from CDC: <http://www.cdc.gov/mmwr/volumes/65/wr/mm6505e1.htm>

New Zealand guidance will continue to be reviewed as further information becomes available.

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<sup>1</sup> 1 March 2016

<sup>2</sup> For men returning from where local transmission of Zika virus is known to occur.

<sup>3</sup> For men with laboratory-confirmed Zika infection

<sup>4</sup> For men with laboratory-confirmed Zika infection

<sup>5</sup> For men with clinical illness compatible with Zika virus infection

### Interim testing and referral algorithm for pregnant women

