

## Zika - Risk Assessment

**Factors health professionals should consider when advising those travelling to Zika virus affected areas**

### Background

[Zika virus \(ZIKV\)](#) is transmitted by daytime biting *Aedes* mosquitoes. A small number of cases have also occurred through sexual transmission.

The infection often occurs without symptoms but can also cause an illness similar to dengue or chikungunya (which are also transmitted by *Aedes* mosquitoes). [Illness associated with ZIKV infection](#) is usually mild and short-lived; serious complications and deaths from ZIKV are not common. ZIKV infection during pregnancy is a cause of congenital brain abnormalities, including [microcephaly](#); and ZIKV is a trigger of neurological complications such as [Guillain-Barré syndrome \(GBS\)](#) [1].

### Risk assessment prior to travel

A comprehensive risk assessment should be undertaken for any traveller going to areas with ZIKV transmission.

The following factors should be considered for each traveller, and will help health professionals to assess and communicate the potential risks associated with ZIKV infection, and allow the traveller to make as informed a decision as possible regarding their travel plans.

### Individual factors

Is the traveller:

- Pregnant or the male partner of a woman who is pregnant
- Planning to become pregnant prior to travel, during travel, or during the 3 months following return from a ZIKV risk area
- The male partner of a woman planning pregnancy
- Immunosuppressed or do they have any co-morbidities

### A. Pregnant travellers and their partners

1. In some countries where there is evidence of a current outbreak of ZIKV with significant transmission pregnant women should postpone non-essential travel until after the pregnancy.

In other countries where there have been reported recent outbreaks, re-introduction of ZIKV or endemic transmission but no current outbreak, pregnant women are advised to consider postponing non-essential travel until after the pregnancy. Specific recommendations for the affected countries can be found in the 'other risks' section of the [Country Information pages](#).

2. In the event that travel to a risk area cannot be postponed, you should ensure the pregnant woman and her partner are fully aware of the risks ZIKV may present. They should be scrupulous with mosquito bite avoidance measures both during daytime and night time hours (but especially during mid-morning and late afternoon to dusk, when the mosquito is most active). Public Health England has produced an information leaflet: [mosquito bite avoidance for travellers](#).

3. Pregnant women who have travelled in an area with a risk of ZIKV transmission should seek advice from their GP or midwife on their return to the UK, even if they have not been unwell. This advice does not apply to areas considered to be at very low risk of ZIKV.

4. Pregnant women who develop symptoms suggestive of ZIKV infection in or soon after travel to an area rated as very low risk should also seek medical advice and contact their GP on return.

5. ZIKV has been shown to be present in semen and vaginal secretions. The virus persists longer in semen than in the female genital tract, but the viral RNA detected is not necessarily infectious. Cases of sexual transmission are occasionally reported [2].

6. Consistent and correct use of condoms (or other barrier methods) for vaginal, anal and oral sex is advised for the duration of the pregnancy if the couple both travelled, or if just the male partner travelled even in the absence of symptoms.

## **B. Couples planning a pregnancy prior to, during or within 6 months after travel**

1. It is recommended that couples planning pregnancy should check the ZIKV risk for their destination before booking travel and consider any travel and sexual transmission advisories.

2. Screening of asymptomatic travellers for ZIKV is not available on the NHS. Therefore, couples planning pregnancy in the very near future should consider whether they should avoid travel to a country or area with risk of ZIKV, rather than delay conception for the recommended period (see below) after travel. This particularly includes couples in assisted fertility programmes.

3. Couples planning pregnancy who are travelling to an area with risk of ZIKV should be advised to delay conception to reduce the risk of the developing fetus being exposed to ZIKV. This advice does not apply to areas considered to be at very low risk of ZIKV.

4. You should ensure that both partners are fully aware of the risks ZIKV may present. They should be scrupulous with mosquito bite avoidance measures both during daytime and night time hours (but especially during mid-morning and late afternoon to dusk, when the mosquito is most active).

Public Health England has produced an information leaflet: [mosquito bite avoidance for travellers](#).

5. ZIKV has been shown to be present in semen and vaginal secretions. The virus persists longer in semen than in the female genital tract, but the viral RNA detected is not necessarily infectious. Most cases of ZIKV are acquired via mosquito bites, but sexual transmission of ZIKV is occasionally reported [2].

6. Couples planning pregnancy who intend to travel to an area with a risk of ZIKV, should follow guidance on prevention of sexual transmission of ZIKV including the consistent use of effective contraception and condoms (or other barrier methods) for vaginal, anal and oral sex during and after travel. These measures should be used even in the absence of symptoms while travelling and if:

- Both partners travelled, for 3 months after return or after last possible ZIKV exposure\*
- Male traveller only, for 3 months after return or after last possible ZIKV exposure\*
- Female traveller only, for 2 months after return or after last possible ZIKV exposure\*

**\*Footnote: Last possible ZIKV exposure is defined as the date of leaving an area with ZIKV risk, or the date on which unprotected sexual contact with a potentially infectious partner took place.**

This advice does not apply to areas considered to be at very low risk of ZIKV.

7. If a woman develops symptoms compatible with ZIKV infection, it is recommended she avoids becoming pregnant for 2 months following symptom onset.

## C. Preventing sexual transmission in other travellers

The implications of sexual transmission of ZIKV are greatest for pregnant women. If couples, where the woman is not pregnant or considering pregnancy, are worried about sexual transmission of ZIKV, this can be prevented by correct and consistent use of condoms (or other barrier methods) during vaginal, anal and oral sex. For those wanting to reduce the risk of sexual transmission, the consistent use of barrier methods during sexual contact should begin while travelling to [ZIKV risk countries](#) and continue to be used for the period of time as stated for couples planning pregnancy above, depending on gender.

## D. Travellers with co-morbidities, immunosuppression or at extremes of age

In the travel health consultation, these travellers should be offered advice regarding the likely impact of any travel related infection on them. More information on [ZIKV infection and immunosuppression is available from Public Health England](#).

## Destination related factors

Information and advice for travellers is available from our [Country Information](#) pages (information is found in the 'other risks' section for affected areas).

When trying to ascertain the risk of ZIKV infection at any given destination, the following should also be considered:

### Affected areas

1. The situation continues to evolve and the risk in countries or areas may change.
2. The risk of ZIKV will vary within a country. Where specific information exists this will be provided in our [Country Information](#) pages.
3. In most cases, it will not be possible to identify specific risk areas within a country. In these situations the degree of risk will be assumed to be uniform in the whole country depending on what information is available.

### Mosquito vector

ZIKV is transmitted predominantly by the bite of an infected *Aedes* mosquito, most commonly *Aedes aegypti*. Other species of *Aedes* mosquitoes may also have the potential to transmit this virus. *Aedes* mosquitoes bite predominantly during daylight hours.

These mosquitoes will bite both outdoors and indoors and throughout the day (and night) but are most active during mid-morning and late afternoon to dusk.

*Aedes* spp mosquitoes are adapted to human habitation and commonly live in urban environments, laying their eggs in collections of water in the domestic environment (e.g. buckets, vases, tyres, flower pots) [3].

Tropical *Aedes* mosquitoes:

- Favour high humidity and warmth.
- Are unlikely to be found at altitudes  $\geq 2,000\text{m}$  (this will be relevant for some areas in Latin America where some cities/travel destinations may be at high altitude).
- Are likely to be more abundant during seasonal rainfall. There may be regional variations in seasonal rainfall. Season alone however should not be relied upon as an indicator of risk.

Risk of exposure may be reduced in areas with good vector control programmes for *Aedes* infestation.

## Traveller activity and behaviour factors

A traveller's risk will also be affected by their behaviour and activities:

1. A traveller who is aware of, and is scrupulous regarding bite avoidance measures, may reduce the risk of mosquito bites and therefore ZIKV infection.
2. In general, the risk of exposure to ZIKV will increase with the length of stay.

## Preventive advice

Travellers visiting areas with a risk of ZIKV or surrounding areas should avoid mosquito bites, monitor news updates and obtain comprehensive travel health insurance. A number of useful quick links can be found below:

- [Country information](#)
- [General information on ZIKV](#)
- [Algorithm – Zika advice for pregnant women, those planning pregnancy and their partners](#)
- [Advice on insect bite avoidance measures](#)
- [Advice on travelling when pregnant](#)
- [Algorithm for assessing pregnant women with a history of travel to areas with ZIKV](#)
- [Mosquito bite avoidance leaflet](#)
- [Foreign and Commonwealth Office guidance on foreign travel insurance](#)

## REFERENCES

1. [World Health Organization. Zika virus factsheet 20 July 2018. \[Accessed 27 February 2019\]](#)
2. [Public Health England. Zika virus: prevention infection by sexual transmission 6 March 2018 \[Accessed 27 February 2019\]](#)
3. [Service M. Medical Entomology for students. Fifth edn. Cambridge University Press. \[Accessed 27 February 2019\]](#)

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