Zika virus infection: guidance for primary care

Introduction

There is an ongoing outbreak of Zika virus infection, mostly focussed in South and Central America and the Caribbean. Based on a growing body of research, there is scientific consensus that Zika virus is a cause of microcephaly and other congenital anomalies (also referred to as congenital Zika syndrome) and Guillain-Barré syndrome (World Health Organization, 14 April 2016). Symptomatic Zika virus infection is typically mild and short-lived in most individuals, but particular attention is required for women who are pregnant or who are planning a pregnancy due to the risks of Zika virus to the developing fetus.

This guidance summarises key advice for those working in primary care, since they may be consulted by patients, including pregnant women, who are travelling to or returning from countries that are part of this outbreak (that is, those countries with active Zika transmission).

Scope

This guidance is intended for primary care clinicians in England. It has been produced by PHE in conjunction with the Royal College of General Practitioners and the British Medical Association.

Key messages

General travel advice for patients

Those working in primary care may be consulted by patients travelling to or returning from areas with active Zika virus transmission. Pregnant women may also request letters to justify suspension of travel to affected areas on medical grounds. In such cases, those working in primary care can refer to updated National Travel Health Network and Centre (NaTHNaC)

PHE publications gateway number: 2015653
Published (version 8): 23 November 2016

advice, which has been produced in response to the ongoing Zika virus outbreak mostly focussed in South and Central America and the Caribbean (http://travelhealthpro.org.uk/zika-virus-update-and-advice-for-travellers-including-pregnant-women/).

- **It is recommended that pregnant women planning to travel** should postpone non-essential travel to areas with active Zika virus transmission until after pregnancy. In addition it is recommended that women should avoid becoming pregnant while travelling in an area with active Zika virus transmission, and for 8 weeks after their return. In the event that travel to an area with active Zika virus transmission cannot be postponed, the pregnant traveller or those planning pregnancy must be informed by the healthcare provider of the risks which Zika virus infection may present.
  In addition, the use of scrupulous 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) should be emphasised, and an information leaflet provided: https://www.gov.uk/government/publications/mosquito-bite-avoidance-for-travellers
- **All pregnant women who have recently travelled** to a country where active Zika virus transmission is reported should notify their primary care clinician, obstetrician or midwife.
- **All travellers** to areas with active Zika virus transmission should practise mosquito bite avoidance measures, both during daytime and night time hours (but especially during mid-morning and late afternoon to dusk, when the mosquito that transmits Zika virus is most active).
- An application of **insect repellent containing 50% DEET** (N,N-diethyl-m-toluamide) will repel mosquitoes for approximately 10 hours if used as per instructions. Repellents containing up to 50% DEET can be used by pregnant women, but higher concentrations should not be used. When both sunscreen and DEET are required, DEET should be applied *after* the sunscreen. Sunscreen with a 30 to 50 SPF rating should be applied to compensate for DEET-induced reduction in SPF. The use of DEET is not recommended for infants less than two months of age.

Preventing potential sexual transmission of Zika virus

The risk of sexual transmission of Zika virus is thought to be low, relatively few cases of male-to-female transmission have been reported, almost all involving men who experienced symptoms of Zika virus infection. Transmission from an asymptomatic male who had travelled to an area with active Zika virus transmission has been reported. Transmission of Zika virus from a female to a male sexual partner, and from a male to a male sexual partner has also been reported, but these appear to be very rare events.

If a female partner is at risk of getting pregnant, or is planning pregnancy, effective contraception is advised to prevent pregnancy AND condom use is advised during vaginal, anal and oral sex for a male traveller to reduce the risk of transmission during travel and for:

- six months after his return from an area with active Zika virus transmission or
- the remaining duration of pregnancy if he is the partner of a pregnant woman, regardless of a history of symptoms suggestive of Zika virus infection

This is a precautionary approach and may be revised as more information becomes available. Zika virus RNA has been detected in semen at 93 days following onset of typical acute Zika virus illness in a single case. The suggested six month period of condom use for men who have travelled to an area with active Zika virus transmission reflects a precautionary approach while further evidence is gathered.

Recommendations for women planning pregnancy who have travelled to or arrived from an area with active Zika virus transmission

After a woman leaves an area with active Zika virus transmission, it is recommended that she should avoid becoming pregnant for 8 weeks.

Recommendations for pregnant women who have travelled to or arrived from an area with active Zika virus transmission

There is scientific consensus that Zika virus is a cause of microcephaly and other congenital anomalies, but detailed knowledge about Zika virus infection and pregnancy is limited and continues to evolve. Recommendations are based on current information and are likely to be updated periodically to reflect emerging evidence.

- A pregnant woman with a history of travel during pregnancy to an area with active Zika virus transmission who reports **current** or **previous** clinical illness that raises suspicion of Zika virus disease, should be tested for Zika virus infection, and have a baseline fetal ultrasound via referral to a local antenatal ultrasound service
  Symptoms and signs of clinical illness in a pregnant woman include the following: rash; itching/pruritus; fever; headache; arthralgia/arthritis; myalgia; conjunctivitis; lower back pain; retro-orbital pain
- Clinicians should consider other travel-associated infections including dengue and chikungunya virus infections, malaria, common infections and non-infectious diseases in the differential diagnosis
- Clinicians should consider other causes of rash in pregnancy in the differential diagnosis, as appropriate (further guidance is available from PHE: http://www.gov.uk/government/publications/viral-rash-in-pregnancy)
- Sample testing advice for pregnant women who have current symptoms is provided separately https://www.gov.uk/guidance/zika-virus-sample-testing-advice
- **All other pregnant women** who have travelled to an area with active Zika virus transmission during pregnancy but who have not reported clinical illness should be offered a baseline ultrasound scan; consideration of storing a serum sample locally is also advised (refer to links in 'further information' section, below)

For further information, refer to the **algorithm** http://www.gov.uk/government/publications/zika-virus-interim-algorithm-for-assessing-pregnant-women-with-a-history-of-travel **for assessing pregnant women with a history of travel during pregnancy to areas with active Zika virus (ZIKV) transmission**, produced in association with the Royal College of Obstetricians and Gynaecologists, the Royal College of Midwives and Health Protection Scotland and **Interim clinical guidelines** https://www.rcog.org.uk/globalassets/documents/news/zika-virus-interim-guidelines.pdf **on Zika Virus Infection and Pregnancy.**

A leaflet offering advice to pregnant women returning from areas with active Zika virus transmission is available: https://www.gov.uk/government/publications/zika-virus-advice-for-women-returning-from-areas-with-active-zika-virus-transmission

Recommendations for all other (non-pregnant) patients who have travelled to or arrived from an area with active Zika virus transmission

Symptomatic Zika virus infection is typically a mild and self-limiting illness. Clinicians should also consider other travel-associated infections including dengue and chikungunya virus infections, malaria, common infections and non-infectious diseases in the differential diagnosis. Symptoms and signs of clinical illness include the following: rash; itching/pruritus; fever; headache; arthralgia/arthritis; myalgia; conjunctivitis; lower back pain; retro-orbital pain.

- For non-pregnant individuals who report current or previous symptoms suggestive of Zika virus infection, refer to sample testing advice https://www.gov.uk/guidance/zika-virus-sample-testing-advice
- For a man with current or previous symptoms whose partner is pregnant, refer to sample testing advice https://www.gov.uk/guidance/zika-virus-sample-testing-advice

Non-pregnant patients who do not have current symptoms

Non-pregnant patients who were diagnosed elsewhere and who have since recovered from their infection do not require further investigation and can be reassured that Zika virus infection is typically short-lived and self-resolving. For male travellers diagnosed elsewhere, refer to advice about preventing potential sexual transmission (see note above about further testing for male travellers with pregnant partners). If there are concerns about persistent symptoms beyond the expected recovery time for Zika virus infection, then discussion with a local infection specialist is recommended.

Diagnostic laboratory testing

Diagnostic laboratory testing is available from PHE's Rare and Imported Pathogens Laboratory (RIPL) https://www.gov.uk/government/collections/rare-and-imported-pathogenslaboratory-ripl.The recommended sample types for testing will depend on whether the patient has current symptoms or previous symptoms that have now resolved.

Clinicians should refer to PHE's sample testing advice webpage for information on sample types required and the tests available for different patient groups. Sample testing advice will be regularly reviewed and updated accordingly. https://www.gov.uk/guidance/zika-virus-sample-testing-advice

Immunocompromised patients

Very little is known about Zika virus infection in immunocompromised patients. Interim advice has been produced: https://www.gov.uk/guidance/zika-virus-and-immunocompromised-patients

Queries about donating blood, tissues or semen

Donating blood or tissue: individuals who have been diagnosed with Zika virus infection, or who report having experienced symptoms consistent with Zika virus infection, should not donate blood or tissues for six months following resolution of symptoms. All other individuals arriving from an area with active Zika virus transmission should not donate blood or tissues for 28 days.

Donating semen: any man who has travelled to an area of active Zika transmission should not donate semen for 6 months after their return.

Further information is available from the Joint United Kingdom (UK) Blood Transfusion and Tissue Transplantation Services Professional Advisory Committee: http://www.transfusionguidelines.org/dsg/gdri/latest-updates

Minor procedures in the primary care setting

Individuals who have recently returned from an area with active Zika virus transmission do not pose a risk to healthcare workers as long as universal precautions are followed. This includes procedures such as phlebotomy, minor procedures and dental work.

Notifications and specialist advice

Zika virus infection is not a notifiable disease in England. Primary care clinicians do not need to inform Public Health England about suspected cases (unless seeking advice about diagnostic testing), or cases diagnosed overseas. Additional clinical advice and information about diagnostic testing should be sought in the first instance by contacting the local virologist, microbiologist or infectious disease consultant. The Rare and Imported Pathogens Laboratory (https://www.gov.uk/government/collections/rare-and-imported-pathogens-laboratory-ripl) can provide further specialist advice as required.

Background information on Zika virus

Zika virus is part of the flavivirus family, which includes dengue virus and yellow fever virus. Zika virus infection is spread by the *Aedes aegypti* mosquito, which occurs predominantly in tropical and sub-tropical areas. This mosquito is most active during the day, especially during mid-morning and later afternoon to dusk, but it can also bite at night in well-lit areas. *Aedes aegypti* mosquitoes, and other mosquito species that may be capable of transmitting Zika virus, are not found in the UK.

Zika virus was first identified in Uganda in 1947. Since 2007, an increasing number of Zika virus infection outbreaks have occurred across multiple regions, including South East Asia, Polynesia and other Pacific regions, certain Caribbean islands and most recently in over thirty countries and territories in the Americas. Locally-acquired transmission has also been reported by Cape Verde.

After an infected mosquito bites a human, the first symptoms of Zika can develop in 3 to 12 days but it can be shorter or longer in some people. The majority of people infected with Zika virus have no symptoms. For those with symptoms, Zika virus tends to cause a mild, short-lived (2 to 7 days) illness. Reported signs and symptoms include a combination of the following: rash; itching/pruritus; fever; rash; headache; arthralgia/arthritis; myalgia; conjunctivitis; lower back pain; retro-orbital pain. Vaccines and specific treatments are not available for Zika virus infection. Most symptomatic cases are short-lived and will resolve spontaneously (see comments about infection in pregnancy, below).

A list of countries that have reported cases is available on the PHE website: http://www.gov.uk/guidance/zika-virus

Zika virus infection as a cause of microcephaly and congenital malformations

In October 2015, the Brazilian Ministry of Health reported an unusual increase in the number of babies born with microcephaly and declared a public health emergency in November 2015. Subsequently, cases of microcephaly and other congenital anomalies (also referred to as congenital Zika syndrome or CZS) have been reported by multiple countries with active Zika virus transmission. Zika virus has been detected in amniotic fluid, placenta or fetal tissue from babies of mothers with suspected or confirmed Zika virus illness during pregnancy.

WHO has stated that there is scientific consensus that Zika virus is a cause of microcephaly and other congenital CNS malformations. Evidence that supports this statement includes the following: detection of Zika virus infection at times during prenatal development when associated congenital anomalies are likely to occur; rare and specific birth defects occurring in conjunction with presumed or confirmed congenital Zika virus infection; data supporting biologic plausibility, including the detection of Zika virus in amniotic fluid, placenta and fetal brain tissue; an inability to identify alternative explanations despite extensive investigations.

Zika virus infection and Guillain-Barré Syndrome

Cases of Guillain-Barré Syndrome (GBS) following suspected or confirmed Zika virus infection have been reported. WHO has stated that there is scientific consensus that Zika virus is a cause of GBS. Analyses of data from the French Polynesia Zika virus outbreak suggest that the incidence of GBS following Zika virus infection was 0.24 per 1000 Zika virus infections; analyses of GBS case series associated with the current Zika virus epidemic are awaited. Advice about GBS and Zika virus infection is available: https://www.gov.uk/guidance/zika-virus-and-guillain-barre-syndrome

Other reported complications of Zika virus infection

Reports of severe illness and other complications of Zika virus infection in adults and children are rare. Brazilian researchers identified two cases of acute disseminated encephalomyelitis (ADEM) following confirmed Zika virus infection. Additionally, Colombian researchers have reported fatal outcomes following critical illness in four patients with confirmed Zika virus infection (age range 2 to 72 years); the role of underlying medical conditions and co-infections in these patients is not clear.

Risk of sexual transmission

A small number of cases of sexual transmission have been reported. Most cases have been male-to-female, but male-to-male and female to male transmission has also been reported. Potential routes of transmission include vaginal, anal and oral sex. Case reports suggest that sexual transmission can occur shortly before, during, and after symptoms but also when no symptoms were present. To date, Zika virus RNA has been detected in semen at 93 days following onset of symptomatic illness (which was typical and short-lived). While it is not possible at the current time to quantify the risk of sexual transmission of Zika virus, the risk is considered to be low; the assessment of risk will continue to be reviewed as new evidence emerges.

Additional information

Additional information about Zika virus for health professionals is available on the PHE website: http://www.gov.uk/guidance/zika-virus
Advice for patients and members of the public is available on the NHS Choices website: http://www.nhs.uk/Conditions/zika-virus/Pages/Introduction.aspx
European Centre for Disease Prevention and Control (ECDC) list of countries with local Zika virus transmission: http://ecdc.europa.eu/en/healthtopics/zika_virus_infection/zika-outbreak/Pages/Zika-countries-with-transmission.aspx

First published: February 2016

This version (v7): 5 August 2016