

Position Statement

28 July 2026

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West Nile Virus

Background

West Nile Virus (WNV) is an arthropod-borne flavivirus, first isolated in 1937 and widely distributed in Africa, Western Asia, Europe, the Middle East, and North and South America. The principal vectors are mosquitoes, and the principal hosts are wild birds. Humans and other animals (e.g. horses) are infected via mosquito bites. They are considered 'incidental hosts' as they do not develop sufficient viraemia to maintain transmission cycles.

Epidemiology, pathogenesis, infection dynamics and clinical characteristics relevant to SoHO safety

WNV emerged for the first time in the north-east of the United States (US) in 1999 and is now found across the whole of the US and into Canada. In Europe, sporadic WNV outbreaks occurred in Romania (in 1996 and 2008), Russia (1999), Israel (2000) and Hungary (2008). However, during 2010, human cases were reported in several European countries. To date, 16 countries in the European Union (EU)/European Economic Area (EEA) have reported WNV infections in humans. No new European countries with cases have been identified since 2020, although spread has been seen within countries with an existing WNV risk. While WNV lineage 1 is the circulating genotype in the US, both lineages 1 and 2 are circulating in Europe.

WNV infections are usually asymptomatic (76%) or result in only mild flu-like symptoms with full recovery (24%). 1 in 150 to 1 in 200 infected individuals may develop a more severe form of the disease, which may culminate in fatal encephalitis, particularly if elderly or immunosuppressed. The incubation period of WNV ranges from 2 to 14 days. Viraemia occurs 1 to 3 days after infection, usually lasting for 8 to 10 days, but in some cases may last for over a month.

In 2025, 14 countries in Europe reported a total of 1112 locally acquired human cases of WNV infection; earliest and latest dates of onset were May and October, respectively. Reported case numbers were above the average for the past decade; Italy experienced a large outbreak with 779 confirmed human cases and France reported more cases than in any previous year. Peak WNV infections occurred in August, consistent with the pattern seen in previous years, and most WNV cases were in males aged 65 years and older.

There have been no cases of locally acquired WNV detected in humans or horses in the UK to date, and a total of 10 confirmed travel-associated cases have been reported since 2019. Parts of south-east England may already have suitable conditions for the mosquito's survival and WNV was detected in mosquito pools collected in Nottinghamshire, England in July 2023. Modelling suggests that current UK temperatures are generally too low for inter-annual WNV transmission cycles to be established but could permit some local short-term transmission in an area with high numbers of infected mosquitoes. Additional modelling has predicted that the WNV risk in the UK will remain low in the coming 2 to 3 decades, but that outbreaks are likely to increase with projected temperature rises in the latter half of this century.¹

Transfusion-transmitted infections have been reported in recipients of red cells, platelets and fresh frozen plasma infected with WNV. Transmission has also been reported following organ transplantation.

Octaplas® is subject to solvent detergent (SD) treatment for pathogen reduction. WNV appears to be one of the most rapidly inactivated viruses studied, therefore SD treatment should also provide protection against WNV.

Risk mitigation

(as applicable, e.g. measures adopted by UK blood, haematopoietic stem cells and tissue establishments, if any; availability of efficacious preventative measures, prophylaxis or treatment)

WNV treatment is primarily supportive, as there is currently no specific antiviral therapy or licensed vaccine for humans. Disease prevention is primarily by the avoidance of mosquito bites.

The JPAC [Geographical Disease Risk Index \(GDRI\)](#) defines countries, or areas within a country, with WNV risk. A WNV risk area is defined as an area with ongoing transmission of WNV, and the WNV risk period is defined as between 1 May and 30 November. The [EU Blood Safety Directive](#) and the [Blood Safety and Quality Regulations 2005 \(as amended\)](#) require that travellers from an area with ongoing transmission of WNV in humans should be deferred for 28 days or be tested for WNV RNA. Currently, NHS Blood and Transplant (NHSBT), the Scottish National Blood Transfusion Service (SNBTS) and the Welsh Blood Service (WBS) test donations with a WNV risk, whereas the Northern Ireland Blood Transfusion Service (NIBTS) defer blood donors with a relevant travel history.

Since the implementation of WNV NAT testing for blood donors, one donor (in 2025) was confirmed positive for WNV RNA (>550,000 donations tested), one WNV NAT reactive donation was confirmed as a recent vaccinee for Japanese encephalitis virus (JEV), a closely related member of the *Flavivirus* genus within the *Flaviviridae* family, and a further reactive donation was confirmed to be positive for WNV lineage 2.

The Standing Advisory Committee on Transfusion Transmitted Infection (SACTTI), on behalf of JPAC, performs weekly surveillance of WNV case numbers (and other infections) during the arbovirus season, with updates to the

¹ Ewing DA et al. A novel approach for predicting risk of vector-borne disease establishment in marginal temperate environments under climate change: West Nile virus in the UK. *Journal of the Royal Society Interface*. 2021; 18(178): 20210049. <https://doi.org/10.1098/rsif.2021.0049>

GDRI implemented as per the JPAC Position statement 'Guidance for the addition and removal of an infectious disease risk entry in the Geographical Disease Risk Index', available on the [JPAC website](#).

Current guidance from the Advisory Committee on the Safety of Blood, Tissues and Organs (SaBTO) advises that living tissue donors should be assessed using the current JPAC donor selection criteria. For deceased tissue donors, deferral is recommended for donors with a known WNV infection, a positive WNV NAT test, or symptoms of clinical meningitis, encephalitis, or flaccid paralysis of unknown aetiology if from a region with reported WNV activity.

For stem cell donors, WNV testing early in the incubation period, with collection of haematopoietic stem cells some days later, may not assure component safety. Therefore, the timing of testing of donors within 28 days of return from an affected area becomes important to ensure testing is not carried out too early in the incubation period. This must be balanced against the patient's clinical need, and the likelihood of detecting infection in an asymptomatic donor. SaBTO advises that universal testing of organ donors for WNV is not currently recommended.

If a donor has either a history of symptoms suggestive of WNV while outwith the UK, or within 28 days of their return, they are deferred for 6 months. This deferral period has recently been reviewed by JPAC, with a SACTTI recommendation to reduce to 4 months, based on current evidence and practice in other jurisdictions.

Conclusion and recommendations

WNV is currently not endemic in the UK. UK donors with a WNV travel risk are identified and either tested for WNV or deferred from donation. To date, pooled WNV NAT using commercial assays has consistently delivered appropriate safety levels and performance data to indicate that the sensitivity limit of 120 IU/mL ([recommended by the Paul-Ehrlich-Institut](#)) is met by the current pool size used in the UK. The UK Blood and Tissue Services perform surveillance of WNV outbreaks and activity levels and JPAC updates the GDRI to ensure areas with ongoing transmission of WNV are identified. No change to current testing/deferral procedures are recommended.

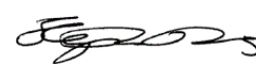
The European Centre for Disease Prevention and Control (ECDC) workplan includes guidelines for WNV and other arbovirus infections and will include recommendations for donor testing/selection. We await the ECDC guidelines for further guidance regarding appropriate triggers for enhanced (individual donation) WNV screening.

The WNV risk in the UK is predicted to remain low in the coming 2 to 3 decades, noting that outbreaks are likely to increase in the latter half of this century. The UK Blood and Tissue Services should consider the impact of climate change on the spread of WNV and on the number of donations predicted to require WNV testing in future.



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