

# West Nile virus: A Brief Note

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## West Nile Virus

WNV (West Nile virus) caused by mosquito which is a mosquito-borne disease in the United States.

WNV belongs to the flavivirus genus and family *Flaviviridae*. WNV causes in during the mosquito season, spread to people by bite of mosquito which is infected with virus. Mosquito starts in the summer and continues through fall. Most of the people infected with WNV do not fall sick. WNV can cause a fatal neurological disease in humans. This virus can also infect and cause severe disease and death in horses.

West Nile virus is commonly found in Asia (west), Africa, Europe, Middle East, and North America.

First outbreak of WNV was in a woman in Uganda 1937. In 1953 WNV was first identified in birds. The largest outbreaks occurred in USA, Greece, Romania, Israel, and Russia.

WNV transmits by mosquitoes. Mosquitoes become infected when they feed on infected birds, and circulate the virus in their blood for few days; eventually virus gets into the mosquito's salivary glands later the virus may injected into humans and animals where it multiply and cause possible illness.

WNV infection is asymptomatic in 80% of infected people, or can lead to West Nile fever or severe West Nile disease. Symptoms include tiredness, headache, fever, and body aches, nausea, vomiting, occasionally skin rashes (on the trunk of the body) and swollen lymph glands.

Severe West Nile disease also called as neuroinvasive disease. Severe illness occur in people of any age, however people above age of 50 and some immunocompromised persons (transplant patients) are at the highest risk in getting severely infected with WNV.

West Nile virus can be diagnosed by number tests. They are as follows

- IgG antibody sero-conversion in two serial specimen collected at a one week interval by ELISA (enzyme-linked immunosorbent assay)
- IgM antibody capture ELISA
- Neutralisation assays
- Viral detection by reverse transcription polymerase chain reaction (RT-PCR) assay
- Virus isolation by cell culture
- There is no specific vaccine for WNV infection. Treatment is supportive for patients with neuro-invasive West Nile virus, often involving hospitalization, respiratory support, intravenous fluids, and prevention of secondary infections.
- By reducing the risk of mosquito transmission. To prevent the transmission of infection should focus on personal and community protection against mosquito bites by wearing light coloured clothes (should prefer long-sleeved shirts and trousers), mosquito nets, personal insect repellent, and by avoiding outdoor activity at peak biting times. In addition community programmes should encourage communities to destroy mosquito breeding sites in residential areas.
- Gloves and other protective clothing should be worn while handling sick animals or their tissues, and during slaughtering and culling procedures to reduce the risk of animal-to-human transmission.

Blood donation and organ donation restrictions and laboratory testing should be considered at the time of the outbreak in the affected areas after assessing the local/regional epidemiological situation to reduce the risk of transmission through blood transfusion and organ transplantation.

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