



**Public Health Advisory**

**6/10/2024**

**High Rate of West Nile Virus Positive Mosquitoes in Clark County, NV**

**SITUATIONAL AWARENESS SUMMARY**

**Situation:** The Southern Nevada Health District (SNHD) began seasonal mosquito surveillance on April 1, 2024. As of 6/7/24, a total of 1,353 mosquito pools were submitted for testing with 91 testing positive for West Nile Virus (WNV), resulting in a positivity rate of 6.7%. Although no human cases have been reported this year, with early detection of WNV we urge healthcare providers to be vigilant for the symptoms of WNV infection and to order appropriate testing when suspected. Notably, the highest number of WNV cases in recent history occurred in 2019, with 43 cases and a positive mosquito pool rate of 11.8% by the end of the season.

- **Infection Overview:** Less than 1% who are infected develop neuroinvasive illness presenting as encephalitis, meningitis, or acute flaccid paralysis with an overall case fatality rate of 10%.

**The SNHD recommends that all providers:**

- ✓ **Consider.** Along with common causes of aseptic meningitis and encephalitis, include other arboviral causes and maintain a **high index of suspicion for WNV disease** in anyone presenting with: (CDC WNV Diagnosis algorithm attached)
  - **WNV Fever:** fever, fatigue, myalgia, nausea, vomiting, occasional rash.
  - **WNV Neuroinvasive Disease:** fever, headache, neck stiffness, altered mental status, weakness.
  - **Associated Factors:** Recent exposure to mosquitoes (2-14 days), blood transfusion, or organ transplantation. Rare cases have been reported in neonates whose mothers acquired WNV during pregnancy or breastfeeding.
- ✓ **Test.** Utilize first-line testing for serum and/or CSF WNV Ab, IgM. Reverse transcription-polymerase chain reaction (RT-PCR) should be considered in immunocompromised patients.

Test	Specimen	CPL	LabCorp	Quest
WNV Ab, IgM*	serum		138842	
	CSF		138966	
WNV Ab, IgM*+IgG	serum	4005		36596
	CSF	4006		36597
WNV RT-PCR	CSF	3995	140215	17563
	Serum			
	Plasma		140240	
	CSF - low volume		140305	

\*WNV Ab IgM can persist in some patients for longer than a year. Most people with WNV are believed to have lifelong immunity. CDC diagnosis algorithm attached.

- ✓ **Promote.** Counsel patients on mosquito control and options for preventing mosquito bites.
- ✓ **Report.** Contact SNHD’s Disease Surveillance and Control: fax 702-759-1414 or call (702) 759-1300.

For further information: <https://www.cdc.gov/west-nile-virus/index.html>  
<https://www.southernnevadahealthdistrict.org/programs/mosquito-surveillance/arbovirus-update/>

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 Southern Nevada Health District

# West Nile Virus (WNV) Diagnosis

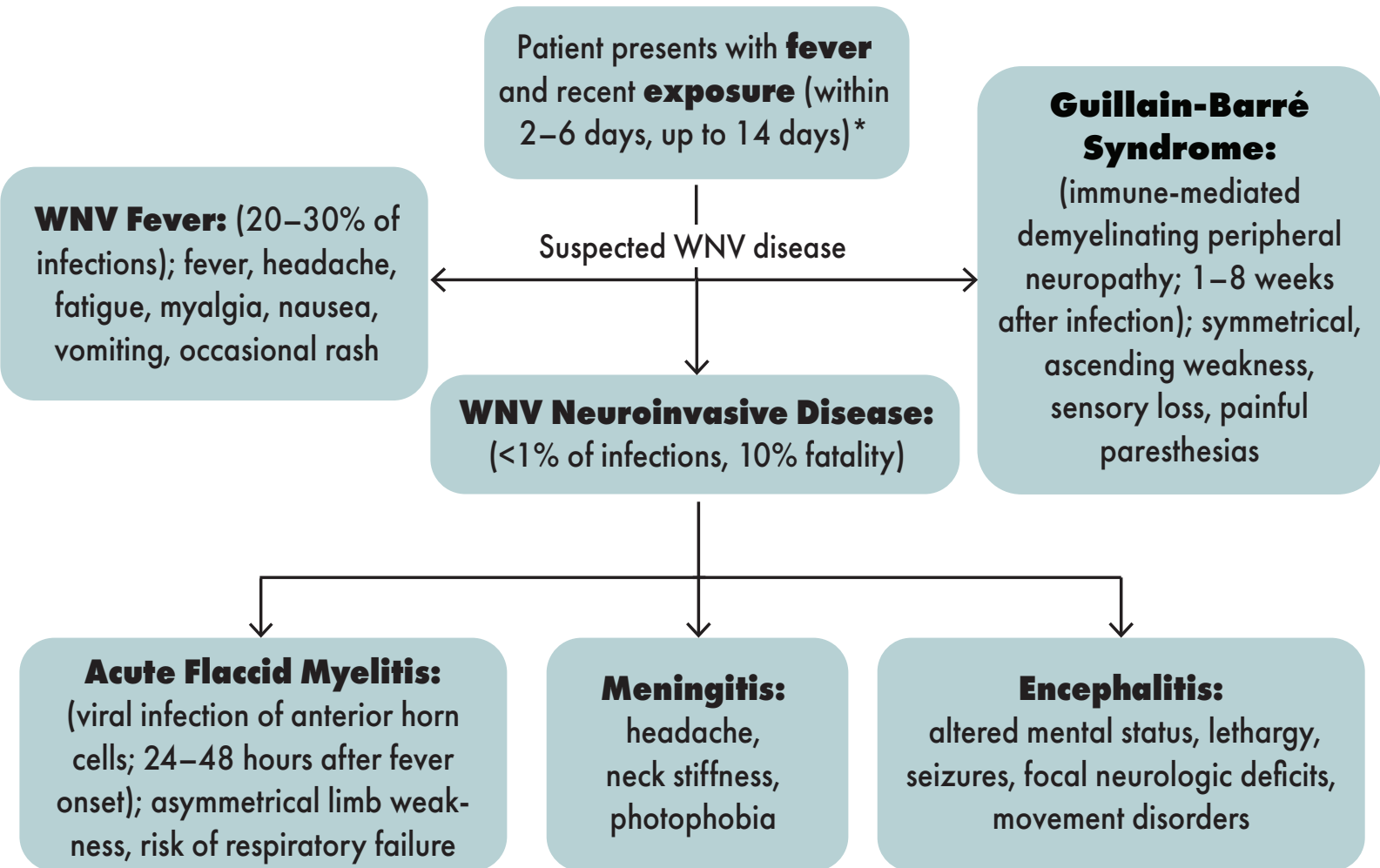
## Potential Exposures to WNV

- Mosquitoes
- Blood transfusion
- Organ transplantation
- Laboratory
- Mother to baby

## Risk Factors for Severe WNV Disease

- Age  $\geq$  60 Years
- Hypertension
- Diabetes
- Cancer
- Chronic kidney disease
- Alcohol use disorder
- Immunosuppressive drugs or conditions

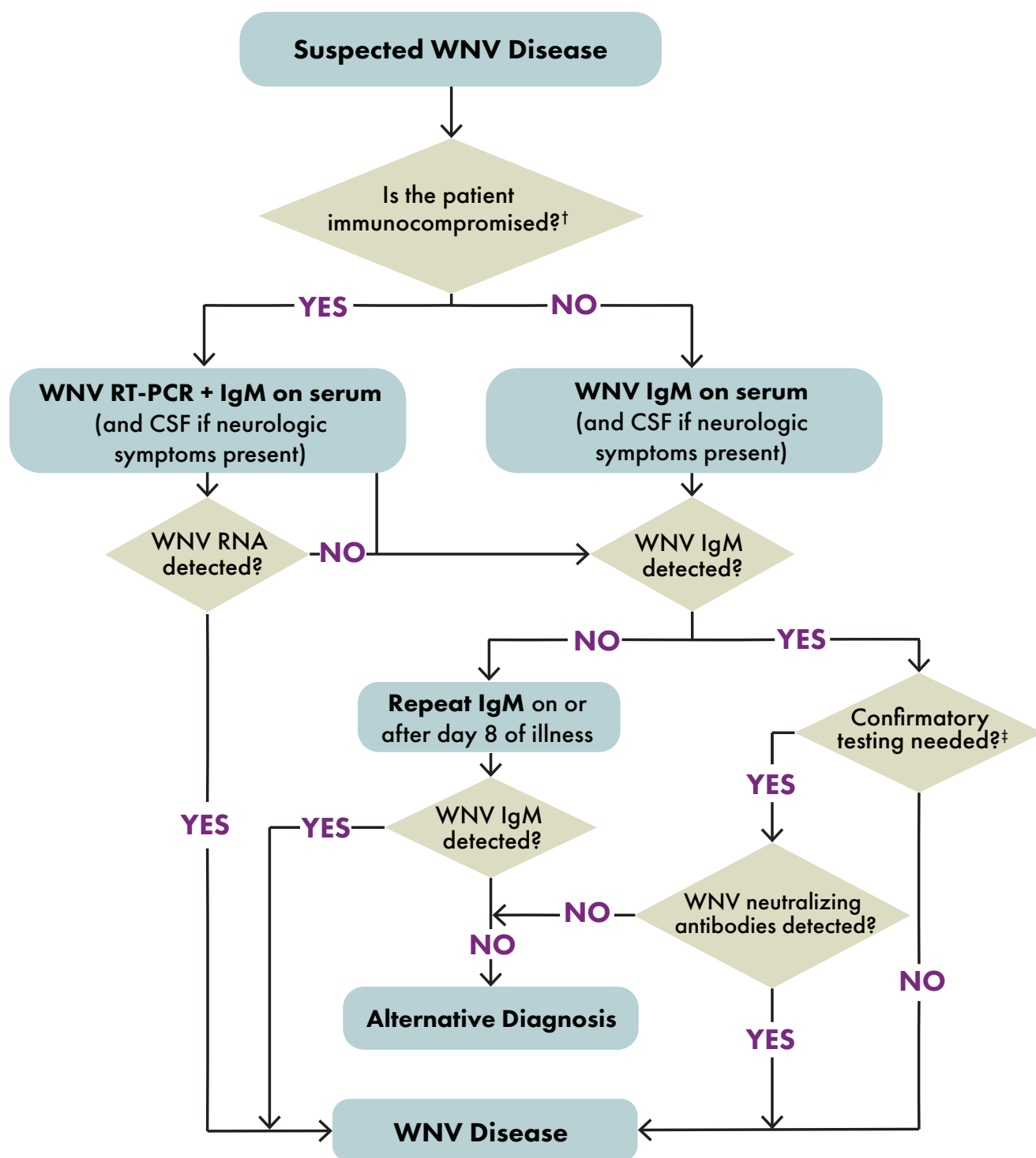
## Suspected WNV Disease



## Other Possible Complications (rare):

- Myocarditis
- Rhabdomyolysis
- Optic neuritis
- Uveitis
- Chorioretinitis
- Orchitis
- Pancreatitis
- Hepatitis

# Diagnostic Testing Algorithm



WNV IgM can usually be performed at commercial or state public health laboratories. Contact your state or local health department to request specialized testing or if you suspect an unusual route of transmission.

## Footnotes

\* Symptom onset may be up to 5 weeks following organ transplantation.

† Viral RNA is usually negative by the time patients present with symptoms; however, immunocompromised patients can have prolonged viremia and delayed antibody responses. If patient is on a B-cell depleting immunotherapy (e.g., rituximab), initial testing with WNV RT-PCR is recommended. Patient on B-cell depleting immunotherapies often cannot mount an antibody response, even up to 12 months after discontinuing the drug.

‡ Indications for confirmatory testing by plaque reduction neutralization test (PRNT): possible exposure to cross-reactive flaviviruses (e.g., St. Louis encephalitis virus, dengue virus); atypical or unusually severe presentation or death; suspected unusual route of transmission (e.g., organ transplant, blood transfusion, laboratory); presentation outside of the typical arboviral season (i.e., April–October).



Centers for Disease Control and Prevention  
National Center for Emerging and Zoonotic Infectious Diseases