



Grant County Health District – Always Working for a Healthier and Safer Grant County

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<p>FOR IMMEDIATE RELEASE 08/01/08</p> <p>TO: Emergency Rooms in Grant County Walk-in Clinics in Grant County Healthcare Provider Offices in Grant County EMS Providers in Grant County</p>	<p>FOR INFORMATION CONTACT</p> <p>Alexander Brzezny, MD, MPH, Grant County Health Officer Peggy Grigg, RN, BSN, Director of Personal Health Services/Administrator</p>
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**- GRANT COUNTY PUBLIC HEALTH ALERT -
Horse in Grant County has West Nile Virus**

Today, Public Health staff received a report of a horse in Moses Lake infected with the West Nile Virus. Previously, WNV-positive mosquitoes were found in pools along Yakima-Benton Counties. We are encouraging that you increase your surveillance for symptoms of WNV disease within your practice.

Serosurveys indicate that about 80% of those infected with WNV are asymptomatic. Approximately 20% of infected individuals present with **WNV** non-neuroinvasive disease (also known as WNV Fever). Less than 1% of infected individuals present with **WNV** neuroinvasive disease.

WNV neuroinvasive disease primarily presents as meningitis or encephalitis, but can present with other rare neurologic manifestations such as acute flaccid paralysis, cranial nerve abnormalities, or optic neuritis. The incidence and case fatality rate of WNV neuroinvasive disease increases with age, with the greatest risk occurring in persons > 50 years old. Among those with severe illness due to West Nile virus, case fatality rates range from 3% to 15% and are highest among the elderly.

The main route of transmission for West Nile virus is through the bite of an infected mosquito. The incubation period is 2 to 14 days. In very rare cases, WNV also has been transmitted through blood transfusions, tissue/organ transplants, laboratory percutaneous injuries, transplacentally, and possibly via breast milk.

People may develop a short (2–3 days) low-level viremia that can contaminate blood units (blood collection centers screen donated units to prevent this from occurring). Transmission through organ transplantation, transplacentally, and via breast milk are very rare. WNV is not spread through casual contact such as touching or kissing a person with the virus.

Treatment is supportive. Treatment for severe neuroinvasive infections often involves hospitalization, intravenous fluids, respiratory support, and prevention of secondary infections. Controlled trials investigating specific treatments are ongoing.

West Nile Virus is reportable to public health within 3 working days.

DIAGNOSING WEST NILE VIRUS

A complete travel history and a history of mosquito bites in the 15 days prior to symptom onset can aid the diagnosis.

Neuroinvasive disease requires the presence of **fever and at least one of the following**, as documented by a physician and in the absence of a more likely clinical explanation:

- Acutely altered mental status (e.g., disorientation, obtundation, stupor, or coma), or

- Other acute signs of central or peripheral neurologic dysfunction (e.g., paresis or paralysis, nerve palsies, sensory deficits, abnormal reflexes, generalized convulsions, or abnormal movements), or
- Pleocytosis (increased white blood cell concentration in cerebrospinal fluid [CSF]) associated with illness clinically compatible with meningitis (e.g., headache or stiff neck).

Non-neuroinvasive disease requires, at minimum, all of the following:

- Presence of documented fever, as measured by the patient or clinician, and
- Absence of neuroinvasive disease (as described above), and
- Absence of a more likely clinical explanation.

Laboratory Criteria for Diagnosis:

- Virus-specific immunoglobulin M (IgM) antibodies demonstrated in CSF by antibody capture enzyme immunoassay (EIA), OR
- Virus-specific IgM antibodies demonstrated in serum by antibody-capture EIA and confirmed by demonstration of virus-specific serum immunoglobulin G (IgG) antibodies in the same or a later specimen by another serologic method (e.g., plaque reduction neutralization or hemagglutination inhibition), OR
- Fourfold or greater change in serum antibody titer, OR
- Isolation of virus from, or demonstration of viral antigen or genomic sequences in tissue, blood, cerebrospinal fluid (CSF), or other body fluid.

Tests Available at the Washington State Department of Health Public Health Laboratories (DOH PHL)

1. Enzyme immunoassay (EIA) for IgM antibody in serum or CSF.
2. Microsphere immunoassay (MIA) for IgM antibody in serum or CSF. This assay is more rapid and specific than the MAC-EIA.
3. PCR assay for viral nucleic acid in blood or CSF (Because PCR is not recommended for routine diagnosis of WNV disease, PCR is not routinely run at the DOH PHL. Consult with DOH CDES if this test is requested, e.g., for a patient with immune dysfunction). Until the disease is established in Washington State, DOH PHL will send all positive specimens to the CDC for confirmatory testing by plaque reduction neutralization test (PRNT).

To Submit Specimens for testing at the Washington State Department of Health Public Health Laboratories (DOH PHL), contact the Grant County Health District at 509-766-7960, or after hours, 509-398-2083. Criteria for testing are:

1. Patients with suspected WNV neuroinvasive disease (fever and change in mental status, cerebrospinal fluid [CSF] pleocytosis, or other acute central or peripheral neurologic dysfunction) when there is no other likely diagnosis; OR
2. Pregnant or breastfeeding women symptomatic with suspected WNV infection and their neonates or breastfeeding infants; OR
3. Recent blood, tissue, or organ donors or recipients suspected to have WNV infection, OR
4. Persons with commercial laboratory evidence of WNV infection to confirm the diagnosis (until WNV disease is established in Washington State).

Testing for persons who do not fit in these four categories (e.g., WNV non-neuroinvasive disease) should be performed at a commercial laboratory.

Specimen Collection

1. Submit > 1 cc of CSF and/or serum (separated serum, not whole blood) for EIA/MIA.
 - a. **Serum** should ideally be obtained **>8 days after onset of symptoms**. A second serum specimen will be requested if the first is non-reactive or indeterminate and was obtained less than 8 days after onset of symptoms. To confirm the infection, a four-fold rise in antibody titer should be demonstrated between an acute and convalescent serum specimen
 - b. **CSF** obtained **less than 3 days after onset of symptoms** will be accepted, however, if non-reactive, this will not rule out WNV infection, and a serum specimen obtained 8 days after onset will be requested.
2. Specimens should be refrigerated and transported cold. Frozen CSF is acceptable. Avoid repeated freeze-thaw cycles.
3. Specimens should be submitted with a completed DOH PHL Virus Examinations form (see attached).