



This is an official DHEC Health Advisory

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10530-DHA-09-14-2022-WNV

Enhanced Response for West Nile Virus, 2022

Summary

This SC DHEC Health Advisory is provided to promote awareness of a significant increase in West Nile Virus (WNV) activity in some areas in South Carolina and to provide guidance to clinicians for West Nile Virus (WNV) testing, the criteria for testing and specimen requirements for WNV testing performed by the SC DHEC Public Health Laboratory (PHL). Consider WNV in the differential diagnosis for people who develop WNV signs or symptomatology (see below) especially those in affected counties.

Background

SC DHEC is reporting a significant increase in the detection of West Nile Virus in Richland County and is alerting residents and the medical community because of the multiple confirmed birds, mosquitoes, and human cases clustered in time and geographic location. Six human cases have been reported in Richland County in 2022, DHEC considers this an outbreak in progress and is urging Richland County and Midlands residents to use personal protective measures against mosquitoes, including repellents and to eliminate mosquito breeding sites.

To date for 2022, SC DHEC has received a total of 11 reports of human cases of West Nile Virus from Aiken, Anderson, Lexington and Richland counties. DHEC and local officials are aware of 5 birds and 38 mosquito samples in Berkeley, Darlington, Greenville, Horry, and Richland counties that have tested positive for West Nile virus. While these findings are not uncommon, the State Public Health Entomologist and local mosquito control agencies are taking appropriate measures to reduce the risk to local residents and visitors. DHEC continues to provide WNV surveillance data to facilitate ongoing city and county mosquito abatement programs in targeting insecticide applications in affected communities.

For additional information about WNV and links to Arbovirus Activity Maps and Data visit the DHEC website at:

[SCDHEC West Nile Virus](#)

WNV Clinical Manifestations

The incubation period for WNV disease is typically 2 to 6 days but ranges from 2 to 14 days.

Asymptomatic:

Most people (up to 80%) who are infected with WNV remain **asymptomatic**.

West Nile Fever:

Approximately 20% of those infected usually develop West Nile Fever. Most of these patients can be treated supportively and do not require hospitalization.

- Common symptoms of West Nile Fever are:
 - Fever
 - Headache
 - Fatigue
- Occasional symptoms of West Nile Fever are:
 - Truncal Rash
 - Eye Pain
 - Lymphadenopathy

Neuroinvasive West Nile Disease:

It is estimated that fewer than 1% of those infected develop serious illness from neuroinvasive WNV disease, which includes meningitis, encephalitis, and meningoencephalitis. These are usually indistinguishable from similar syndromes caused by other viruses. Deaths from WNV are rare.

Severe neurologic disease due to WNV infection has occurred in persons of all ages, and because year-round transmission is possible in southern states, WNV should always be considered in persons with unexplained encephalitis and meningitis.

- **West Nile meningitis:**
Symptoms include fever, headache, and nuchal rigidity. CSF pleocytosis is present with a predominance of lymphocytes. Protein is elevated and glucose is normal.
- **West Nile encephalitis:**
The most severe form of neuroinvasive WNV disease, involves fever and headache with more global neurological symptoms, such as:
 - Altered mental status
 - Confusion
 - Somnolence
 - Coma
 - Focal neurological deficits such as limb paralysis or cranial nerve palsies
 - Tremors, movement disorders
- **West Nile poliomyelitis:**
A flaccid paralysis syndrome associated with WNV infection, is less common than meningitis or encephalitis. It is usually clinically and pathologically identical to poliovirus-associated poliomyelitis and may progress to respiratory paralysis requiring mechanical ventilation. WNV poliomyelitis often presents as isolated limb paresis or paralysis and can occur without fever or apparent viral prodrome. WNV-associated Guillain-Barré syndrome and radiculopathy have also been reported and can be distinguished from WNV poliomyelitis by clinical manifestations and electrophysiologic testing.

It is important to note that headache alone is not a useful indicator of neuroinvasive disease since it is also a key finding in WNV Fever.

Testing for West Nile Virus

- Clinicians should include WNV in a differential diagnosis in anyone with a history of travel to an affected area of SC or another country where WNV is endemic, presenting with a febrile illness.
- Any patient who is hospitalized for meningitis, encephalitis or meningoencephalitis that is not secondary to a bacterial, fungal or amoebic etiology should be tested for WNV. If WNV results are negative, testing for other arboviral illnesses (although very rare in South Carolina) is recommended.
- The most efficient diagnostic method is detection of IgM antibody to WNV in serum collected within 8 to 14 days of illness, or IgM antibody in CSF collected within 8 days of illness onset.
- Specimen submission to the Public Health Laboratory (PHL) is required for WNV. Ship within 1 business day. Contact regional staff if assistance is needed.
- A single serum or CSF IgG is not indicated for the diagnosis of acute disease and should not be performed. However, a four-fold increase in IgG antibody titer between paired acute and convalescent serum samples can be used to confirm recent WNV infection.
- PCR is not usually used in the diagnosis of WNV in humans and is not offered by the DHEC PHL. PCR has limited usefulness due to the low and transient viremia associated with WNV and has a sensitivity of only about 50%.
- Patients who have given blood and are NAT (nucleic acid amplification test) positive for WNV RNA who are not symptomatic should not be tested for WNV via serology.

References and Additional Information

- CDC West Nile virus information page: <https://www.cdc.gov/westnile/index.html>
- DHEC For Health Care Professionals – West Nile virus: <http://www.scdhec.gov/Health/FHPF/DiseaseResourcesforHealthcareProviders/WestNileVirusClinical/>
- DHEC West Nile virus information page: <http://www.scdhec.gov/westnile/>

DHEC contact information for reportable diseases and reporting requirements

Reporting of **West Nile Virus disease** is consistent with South Carolina Law requiring the reporting of diseases and conditions to your state or local public health department. (State Law # 44-29-10 and Regulation # 61-20) as per the [DHEC 2022 List of Reportable Conditions](#).

Federal HIPAA legislation allows disclosure of protected health information, without consent of the individual, to public health authorities to collect and receive such information for the purpose of preventing or controlling disease. (HIPAA 45 CFR §164.512).

Regional Public Health Offices – 2022

Mail or call reports to the Epidemiology Office in each Public Health Region

MAIL TO:

<p style="text-align: center;">Lowcountry</p> <p>4050 Bridge View Drive, Suite 600 N. Charleston, SC 29405 Fax: (843) 953-0051</p>	<p style="text-align: center;">Midlands</p> <p>2000 Hampton Street Columbia, SC 29204 Fax: (803) 576-2993</p>	<p style="text-align: center;">Pee Dee</p> <p>1931 Industrial Park Road Conway, SC 29526 Fax: (843) 915-6506</p>	<p style="text-align: center;">Upstate</p> <p>352 Halton Road Greenville, SC 29607 Fax: (864) 282-4373</p>
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CALL TO:

<p style="text-align: center;">Lowcountry</p> <p>Allendale, Bamberg, Beaufort, Berkeley, Calhoun, Charleston, Colleton, Dorchester, Hampton, Jasper, Orangeburg</p> <p>Office: (843) 441-1091 Nights/Weekends: (843) 441-1091</p>	<p style="text-align: center;">Midlands</p> <p>Aiken, Barnwell, Chester, Edgefield, Fairfield, Kershaw, Lancaster, Lexington, Newberry, Richland, Saluda, York</p> <p>Office: (888) 801-1046 Nights/Weekends: (888) 801-1046</p>	<p style="text-align: center;">Pee Dee</p> <p>Clarendon, Chesterfield, Darlington, Dillon, Florence, Georgetown, Horry, Lee, Marion, Marlboro, Sumter, Williamsburg</p> <p>Office: (843) 915-8886 Nights/Weekends: (843) 409-0695</p>	<p style="text-align: center;">Upstate</p> <p>Abbeville, Anderson, Cherokee, Greenville, Greenwood, Laurens, McCormick, Oconee, Pickens, Spartanburg, Union</p> <p>Office: (864) 372-3133 Nights/Weekends: (864) 423-6648</p>
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<p style="text-align: center;">For information on reportable conditions, see https://www.scdhec.gov/ReportableConditions</p>	<p><u>DHEC Bureau of Communicable Disease Prevention & Control</u> Division of Acute Disease Epidemiology 2100 Bull St • Columbia, SC 29201 Phone: (803) 898-0861 • Fax: (803) 898-0897 Nights / Weekends: 1-888-847-0902</p>
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Categories of Health Alert messages:

Health Alert	Conveys the highest level of importance; warrants immediate action or attention.
Health Advisory	Provides important information for a specific incident or situation; may not require immediate action.
Health Update	Provides updated information regarding an incident or situation; unlikely to require immediate action.
Info Service	Provides general information that is not necessarily considered to be of an emergent nature.