

This is an official
DHEC Health Advisory

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**Public Health Surveillance and Laboratory Testing for
West Nile Virus, 2017**

Summary

This SC DHEC Health Advisory is provided as 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). Residents or visitors to affected counties who develop WNV signs or symptomatology (see below) are encouraged to seek medical evaluation.

Background

To date for 2017 SC DHEC has received reports of 11 human cases of West Nile Virus in Anderson, Beaufort, Greenville, Horry, Richland, Union, and York counties. One West Nile Virus related death has been reported this year. DHEC and local officials are aware of animal (horse and birds) and mosquito (75) samples in Anderson, Beaufort, Colleton, Greenville, Kershaw, Lexington, Richland, Saluda, and York counties that have tested positive for West Nile virus. While these findings are not uncommon, the State Entomologist and local mosquito control agencies are taking appropriate measures to reduce the risk to local residents and visitors.

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% 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:

Very few patients develop neuroinvasive WNV disease, which includes meningitis, encephalitis, and meningoencephalitis. These are usually indistinguishable from similar syndromes caused by other viruses.

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 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, 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.

- 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 2017 List of Reportable Conditions available at: <http://www.scdhec.gov/Library/CR-009025.pdf>

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 – 2017			
Mail or call reports to the Epidemiology Office in each Public Health Region			
MAIL TO:			
<u>Lowcountry</u> 4050 Bridge View Drive, Suite 600 N. Charleston, SC 29405 Fax: (843) 953-0051	<u>Midlands</u> 2000 Hampton Street Columbia, SC 29204 Fax: (803) 576-2993	<u>Pee Dee</u> 145 E. Cheves Street Florence, SC 29506 Fax: (843) 661-4859	<u>Upstate</u> 200 University Ridge Greenville, SC 29602 Fax: (864) 282-4373
CALL TO:			
<u>Lowcountry</u> Berkeley, Charleston, Dorchester Phone: (843) 953-0043 Nights/Weekends: (843) 441-1091 Beaufort, Colleton, Hampton, Jasper Phone: (843) 322-2453 Nights/Weekends: (843) 441-1091 Allendale, Bamberg, Calhoun, Orangeburg Phone: (803) 268-5833 Nights/Weekends: (843) 441-1091	<u>Midlands</u> Kershaw, Lexington, Newberry, Richland Phone: (803) 576-2749 Nights/Weekends: (888) 801-1046 Chester, Fairfield, Lancaster, York Phone: (803) 286-9948 Nights/Weekends: (888) 801-1046 Aiken, Barnwell, Edgefield, Saluda Phone: (803) 642-1618 Nights/Weekends: (888) 801-1046	<u>Pee Dee</u> Chesterfield, Darlington, Dillon, Florence, Marlboro, Marion Phone: (843) 661-4830 Nights/Weekends: (843) 915-8845 Clarendon, Lee, Sumter Phone: (803) 773-5511 Nights/Weekends: (843) 915-8845 Georgetown, Horry, Williamsburg Phone: (843) 915-8804 Nights/Weekends: (843) 915-8845	<u>Upstate</u> Anderson, Oconee Phone: (864) 260-5581 Nights/Weekends: (866) 298-4442 Abbeville, Greenwood, McCormick Phone: (864) 260-5581 Nights/Weekends: (866) 298-4442 Cherokee, Greenville, Laurens Pickens, Spartanburg, Union Phone: (864) 372-3133 Nights/Weekends: (866) 298-4442
For information on reportable conditions, see http://www.scdhec.gov/Health/FHPF/ReportDiseasesAdverseEvents/ReportableConditionsInSC/		<u>DHEC Bureau of Disease 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	

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.