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County Executive

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Commissioner, Department of Health

ATTENTION

Public Health Update

The Westchester County Department of Health provides public health updates to members of the medical community on important issues affecting public health in Westchester

August 16, 2002

First Human Case of West Nile Virus Identified in New York City during the 2002 Mosquito Season in an 84-year-old Male Resident of Queens

- **Please report all suspected cases of Viral Encephalitis to the Westchester County Health Department (914-813-5159 M-F 8:30-4:30 PM or 914-813-5000 24 hours/day, 7 days/week)**
- **No human cases of West Nile Virus have been identified in Westchester County**

Please distribute to staff in the Departments of Internal Medicine, Pediatrics, Family Medicine, Neurology, Infectious Diseases, Emergency Medicine, Critical Care and Laboratory Medicine

Dear Colleagues,

An 84-year-old male resident of Queens has been diagnosed with West Nile (WN) viral infection, which represents the first confirmed human case of WN virus in New York during the 2002 mosquito season. The patient became ill on July 20th with symptoms of diarrhea and weakness. The diarrhea resolved, but he became febrile and progressively more fatigued, and was hospitalized on July 27th. Several days after admission, the patient developed symptoms of acute encephalitis. A spinal tap revealed a mild pleocytosis and elevated protein. He tested positive for WN virus in both cerebrospinal fluid (CSF) and serum samples by an IgM-capture enzyme-linked immunosorbent assay (ELISA). At last report, he remains hospitalized in critical condition. This appears to be a locally-acquired infection, as the patient had no recent travel outside of the New York City area.*

West Nile virus activity has been detected in birds and mosquitoes, but not humans, in Westchester County (see Table 1). In response to these findings, the Health Department is increasing surveillance of dead birds, mosquitoes, mosquito breeding sites, larviciding, and public education. No spraying for mosquitoes is planned for Westchester County at this time. Additionally WN viral activity been detected in all five boroughs of New

* We would like to thank the New York City Department of Health and Mental Hygiene, especially Drs. Michael Henry and Marcelle Layton, for the information regarding the NYC case.

York City, Connecticut, throughout New York State, and New Jersey. In the New York City region, only New York City has identified a human case at this time. In other areas of the United States, WN viral activity continues to expand, with 37 states and the District of Columbia reporting WN virus activity. To date, 161 human cases have been reported in 11 states, with 9 fatalities. Further information on national surveillance can be found at the Centers for Disease Control and Prevention site:

<http://www.cdc.gov/ncidod/dvbid/westnile/index.htm>

To ensure the rapid identification of human WN virus infection, we are requesting that providers **report immediately** by telephone to the Westchester County Department of Health any adult or pediatric patient with suspected viral encephalitis as defined below:

- a. Fever $\geq 38^{\circ}\text{C}$ or 100°F , and
- b. Altered mental status (altered level of consciousness, agitation, lethargy) and/or other evidence of cortical involvement (e.g., focal neurologic findings, seizures), and
- c. CSF pleocytosis with predominant lymphocytes and/or elevated protein and a negative gram stain and culture, with or without
- d. Muscle weakness (especially flaccid paralysis) confirmed by neurologic exam or EMG.

A NYSDOH Viral Encephalitis/Meningitis Case Report Form is attached. This form should be completed for each suspect case and faxed to the WCDH at (914) 813-5182. A copy of the form should also be submitted with the laboratory specimens.

TO REPORT A SUSPECT CASE AND ARRANGE FOR TESTING, CALL THE WESTCHESTER COUNTY DEPARTMENT OF HEALTH AT:

| | |
|----------------|---------------------------|
| (914) 813-5159 | Mon-Fri 8:30 AM - 4:30 PM |
| (914) 813-5000 | 24 hours/day; 7 days/week |

Table 1: Summary of West Nile Virus Findings in Westchester County to Date

| West Nile Positive Results 2002 YTD | |
|--|-----------|
| Birds | 10 |
| Mosquito Pools | 2 |
| Humans | 0 |

The Westchester County Health Department thanks the medical and laboratory communities for their continued collaboration in the investigation of communicable diseases.

Sincerely,

Belinda Ostrowsky

Ada Huang

Belinda Ostrowsky, MD, MPH

Ada Huang, MD

Director Communicable Diseases

Deputy Commissioner, Disease Control

NEW YORK STATE DEPARTMENT OF HEALTH Viral Encephalitis/Meningitis Case Report Form

PATIENT INFORMATION

Last name _____ First Name _____ MI _____ County _____
Address _____ City _____ Zip Code _____ State _____
Telephone (____) _____ - _____ Date of Birth ____/____/____ Age _____ Occupation: _____
Sex: Male Female Race: White Black Am Indian/Alaskan Asian Other
Ethnicity: Hispanic Non-Hispanic Unknown Pregnant: Yes No Unknown

CLINICAL INFORMATION

Hospitalized? Yes No If yes, Hospital Name _____
Street Address _____ City _____ State _____ Zip _____
Medical record # _____ Date of admission ____/____/____ Date of discharge/transfer ____/____/____
Date of first symptoms ____/____/____ **Date of first neurologic symptoms** ____/____/____
Current Diagnosis: encephalitis meningitis other diagnosis _____
Fever (> 38°C or 100°F) Yes No Unknown Altered mental status Yes No Unknown
Headache Yes No Unknown Stiff neck/Meningeal signs Yes No Unknown
Seizures Yes No Unknown Muscle weakness Yes No Unknown
Rash Yes No Unknown Muscle pain Yes No Unknown
Other _____ **Outcome** Recovered Died Unknown
If patient died, date of death ____/____/____ Autopsy performed Yes No Unknown

LABORATORY INFORMATION / TEST RESULTS

CSF (specify units) Date ____/____/____ Abnormal? Yes No Unknown
Glu _____ Prot _____ RBC _____ WBC _____ Diff: Segs% _____ Lymphs% _____
Gram stain _____ Bacterial Culture _____ Fungal / Parasitic tests _____
Viral test results (Culture/ Serology / PCR) _____
CBC (specify units) Date ____/____/____ WBC _____ Diff: Segs% _____ Lymphs% _____
Bacterial Culture _____
MRI Date ____/____/____ Result _____
CT Date ____/____/____ Result _____
EEG Date ____/____/____ Result _____
EMG Date ____/____/____ Result _____

Antiviral Treatment Yes No Unknown If yes, list below. **Date started:**
1. _____

Risk Factor Information: (during 1 month before onset)
Patient traveled: Outside country Outside New York State Outside county of residence
 Animal or arthropod contact? Yes No Unknown Specify: _____

REPORTING INDIVIDUAL (Please Print Clearly) Title (ICN, Resident, Attending) _____
Last name _____ First name _____ Telephone (____) _____ - _____
Work address _____ City _____ State _____ Zip Code _____

SPECIMENS BEING SUBMITTED TO NYSDOH FOR TESTING Date Submitted ____/____/____
CSF* Yes No If yes, date collected ____/____/____ If no, was a lumbar puncture performed? Yes No
* If less than 1.0 ml of CSF is being submitted, please check preference: Viral encephalitis PCR panel* **or** West Nile antibody
Serum Yes No If yes, date collected ____/____/____ Initial or Repeat Specimen
Other Yes Please specify _____ Date collected ____/____/____

REQUESTING PROVIDER: Last name _____ First name _____
Work address _____ City _____ State _____ Zip Code _____

SEND SPECIMENS TO: Encephalitis PCR Lab
New York State Department of Health
Griffin Laboratory
Route 155
Guilderland, NY 12084

PLEASE NOTE: SHIP CSF FROZEN ON DRY ICE

*PCR panel includes: WNV, SLE, EEE, California serogrp, Cache Valley, Powassan, Enterovirus, HSV, VZV, CMV & EBV

NEW YORK STATE DEPARTMENT OF HEALTH

Collection and Submission of Clinical Specimens for Encephalitis Testing, Including West Nile Virus

The New York State Department of Health (NYSDOH) Laboratory Wadsworth Center offers diagnostic testing for a variety of viral agents that cause encephalitis. Available tests include: 1) viral culture, 2) serological studies, and 3) polymerase chain reaction (PCR) assays. Actual tests performed will depend on the type of specimen submitted (i.e., cerebrospinal fluid, serum, brain tissue). Proper collection, storage, and packaging are essential in preserving the clinical specimens so that testing the samples can be carried out properly.

Due to limited laboratory testing capacity, West Nile virus testing is being prioritized for hospitalized patients who meet the clinical criteria for viral encephalitis or meningitis (see attached clinical criteria). If one of your patients meets the appropriate criteria, please take the following steps:

1. Call the county health department where the patient resides. Specimens should not be submitted for West Nile virus testing without first contacting the appropriate county health department. The county health department will determine whether testing at NYSDOH is necessary.

2. Complete the NYSDOH Viral Encephalitis/Meningitis Case Report Form and the Viral Encephalitis Letter of Agreement Form. (Because some of the PCR tests performed on CSF are done under an investigative permit, the requesting physician must submit the letter of agreement form.) Fax forms, once completed, to the county health department and submit copies with the laboratory specimens. It is critical that **date of onset** and **date of collection** are recorded on the *Viral Encephalitis/Meningitis Case Report Form*. Serologic results cannot be interpreted if the dates of onset and collection are not recorded.

3. Collect the specimens.

- **CSF: 2 tubes, 1-2 cc each** collected without any preservatives. This sample should be kept frozen on dry ice or in a -70° C freezer.
- **Sera: 5-10ml in a red- top tube.** All sera should be centrifuged, separated from the clot and red cells, and dispensed into another tube for shipping. The sample should be refrigerated or, if it will be sent with CSF, it should be frozen on dry ice.
- Make sure all specimens are labeled with patient's name, specimen type, and **date of collection**.

4. Keep the completed forms with the specimens. Wadsworth Center cannot process the specimens without complete paperwork. Incomplete forms will significantly delay sample processing.

5. Package and mail the specimens.

- If both CSF and serum are available, **ship together on dry ice.** Serum should be dispensed into cryotubes (rugged plastic polymer) that can withstand freezing and thawing.
- If only serum is available, the specimen does not need to be on dry ice. Serum samples can be shipped in a box with a cold pack.
- Mail specimens to:

Dr. Cinnia Huang
New York State Department of Health
Griffin Laboratory
Route 155
Guilderland, NY 12084

NEW YORK STATE DEPARTMENT OF HEALTH (NYSDOH)
Viral Encephalitis Letter of Agreement for
Physician Ordered Testing by Polymerase Chain Reaction (PCR)

NYSDOH's Wadsworth Center offers the following tests on CSF for viral encephalitis:

1. PCR testing for a panel of viruses, including: herpes simplex, varicella zoster, cytomegalovirus, Epstein-Barr virus, enteroviruses, St. Louis encephalitis (SLE), eastern equine encephalitis (EEE), California encephalitis (including LaCrosse and Jamestown Canyon viruses), Powassan and West Nile virus (WNV), and
2. Enzyme-linked immunoassay (ELISA) for WNV.

If there is **insufficient quantity of CSF (less than 1.0 ml) to conduct both ELISA and PCR for WNV**, please consider the following in determining which test is most appropriate for your patient:

1. ELISA is more sensitive than PCR for WNV testing and should be considered when there is stronger suspicion of WNV than other viruses.
2. PCR is less sensitive for WNV, but tests for a wide range of viruses. PCR should be considered if viruses other than WNV are suspected.

Please note your testing priority below or on the viral encephalitis/meningitis case report form. If PCR testing is desired, the agreement below must be completed.

~**Viral Encephalitis PCR Panel**

~**West Nile Virus ELISA Antibody Testing**

Patient Name: _____

As a licensed physician, I acknowledge the following requirements for the use of the viral encephalitis PCR Assay results from your laboratory:

1. I am responsible to insure that the encephalitis PCR Assay results will be reported to me or someone under my supervision.
2. I am responsible to insure that the test results will be used solely as an adjunct to a diagnosis based on the complete clinical presentation and other test results.
3. I am responsible to insure that before the specimens are drawn, each patient or their guardian is counseled that these test results are for investigational use and will not be the sole basis of diagnosis.
4. I am responsible to insure that the specimen collection is done in accordance with applicable laws and regulations concerning informed consent and confidentiality.

Date: _____

Name: _____, M.D./D.O. License No. _____
(printed)

Name: _____ Phone No. (____) _____
(signature)

Address: _____

Please FAX this completed and signed form to: (518) 869-6487.
Virology (Dr. Cinnia Huang, Encephalitis PCR)
New York State Dept. of Health, Griffin Laboratory
Route 155
Guilderland, NY 12084