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<http://www.epi.Alaska.gov>

2004 Guidelines for West Nile Virus Surveillance in Alaska

Background

West Nile virus (WNV) was first detected on the North American continent in 1999 in New York City. Each year thereafter, the disease has infected human, animal, and mosquito populations ever westward. In 2003, the number of human cases in the United States exceeded 9,800, more than twice the number of cases recorded in 2002, although the number of deaths seen for both years was similar at approximately 270. So far in 2004, evidence of WNV has been detected among either avian or animal populations in eight states, including California. As well, a single human case of WNV has been reported in Ohio for the current WNV season.

Alaska has yet to record local WNV activity in any human, bird or other animal. In past years, several cases of imported WNV illness were detected among tourists. In May 2003, an Epidemiology *Bulletin* announced specific plans for WNV surveillance in Alaska (http://www.epi.Alaska.gov/bulletins/docs/b2003_09.pdf). No local WNV activity was detected. No one can predict if or when WNV will reach Alaska, but surveillance activities will continue in 2004.

WNV Testing at ASVL

In 2003, the Alaska State Virology Laboratory (ASVL) in Fairbanks developed capacity to test both human and avian specimens for WNV. Human testing involves assessing serum or cerebrospinal fluid (CSF) for presence of IgM antibodies by MAC ELISA (enzyme-linked immunosorbent assay). The first 20 specimens positive via MAC ELISA at ASVL will be forwarded to the Centers for Disease Control and Prevention in Fort Collins, Colorado, for confirmatory testing via a PRNT (plaque reduction neutralization test). Although IgM levels have been shown to remain elevated in some cases for over a year, detectable WNV IgM usually indicates acute infection.

Avian testing involves assessing brain tissue for presence of WNV by polymerase chain reaction (PCR). A positive result indicates that virus was present in the bird's tissues at the time of death.

Surveillance for WNV in Humans

Healthcare providers who suspect cases of WNV should contact the Section of Epidemiology at 907-269-8000 (8AM-5PM) or 800-478-0084 (after hours) for consultation about the diagnosis and for information regarding transport of diagnostic specimens to ASVL.

Specimens will be accepted for WNV evaluation **ONLY** for patients hospitalized with presumptive diagnoses indicative of neuroinvasive disease, such as:

- Viral encephalitis
- Viral meningoencephalitis
- Guillain-Barré Syndrome
- Acute flaccid paralysis

Once testing has been approved by Epidemiology, at least 0.5 ml of serum and at least 1.0 ml of CSF should be sent to ASVL. Acute serum and/or CSF specimens should be collected at initial clinical presentation. Paired sera are not needed if the 1st sample was taken at least 8 days after illness onset. Specimens must be kept cool (4° C) prior to, and during shipment. Contact Don Ritter or Andrea Earnest (907-474-7017) at ASVL to notify them of specimen arrival or with other questions about specimen handling and shipping.

Surveillance for WNV in Birds

Although many species of birds have demonstrated evidence of WNV infection, we will continue to focus surveillance on species that appear to be exquisitely sensitive to WNV and more likely than others to die when infected. **ONLY** the following species of dead birds will be accepted for testing:

- Common ravens
- Northwestern or American crows
- Black-billed magpies
- Steller's or Gray jays
- Any owl, hawk, eagle or falcon

In certain circumstances, e.g., for bald eagles or with an unexplained cluster of dead birds, carcasses may be submitted to the U.S. Geological Survey (USGS) National Wildlife Health Center for testing. For all testing, carcasses must be fresh to detect virus by PCR. Therefore, dead birds will be accepted by ASVL **ONLY** if they are in the following condition:

- No maggots or maggot eggs on or under body
- No foul odor or watery dark brown/black liquid emanating from body
- Bird observed alive within last 12 hours, i.e., not observed dead for >12 hours
- Body intact and not scavenged, e.g., viscera present

NOTE: Birds suspected to have been electrocuted, shot, poisoned, or otherwise killed under suspicious circumstances should be reported immediately to the USFWS (U.S. Fish and Wildlife Service) Law Enforcement Division at 800-858-7621; or, if in Anchorage, at 907-271-2828.

If a person finds a dead bird meeting the above species and freshness criteria, DO NOT PICK UP THE BIRD.

Instead, contact either of the following:

- 1) A local wildlife authority, such as ADFG (Alaska Department of Fish & Game), USFWS, or USGS. Call ADFG at 907-267-2347 in Anchorage, 907-459-7206 in Fairbanks, or 907-465-4148 in Juneau, for more information about regional contacts.
- 2) Alaska Section of Epidemiology at 907-269-8000.

We will determine whether the carcass should be tested and arrange with the caller the most efficient method for collecting the carcass and transporting it to ASVL. Not all birds meeting the criteria will be tested.

Method of carcass disposal:

If instructed by a wildlife or public health authority to dispose of a dead bird, use gloves or put your hand inside of a plastic bag to pick up the bird. Double bag the carcass and dispose of it in the garbage.

For more information:

Section of Epidemiology WNV website: <http://www.epi.Alaska.gov/id/dod/wnleinfo.stm>
ADFG WNV website: <http://www.wildlife.Alaska.gov/aawildlife/disease/wnv.cfm>
E-mail WNV & wildlife questions to: WNVinfo@fishgame.state.ak.us