



STATE OF NEW YORK DEPARTMENT OF HEALTH

Wadsworth Center

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INFLUENZA A (H5N1) LABORATORY INFORMATION BULLETIN

This advisory is being sent to New York State permitted laboratories and Local Health Departments in response to requests for updated guidelines for the coming influenza season, particularly regarding H5N1 avian influenza.

Please be advised that the New York City Department of Health and Mental Hygiene has issued separate guidance for the collection and referral of samples collected for Influenza A (H5N1) testing within New York City. In New York City, contact the New York City Department of Health and Mental Hygiene through the Provider Access Line at 1-866-NYC-DOH1 (1-866-692-3641) during business hours. At all other times, call the Poison Control Center at 1-212-764-7667.

BACKGROUND

Since 2005, numerous outbreaks of H5N1 infection among poultry and wild birds have been confirmed in countries in Asia, Europe, the Middle East and Africa. For a continually updated listing of affected countries, visit the World Health Organization of Animal Health (OIE) web site at: (http://www.oie.int/eng/en_index.htm)

Based on WHO data on October 8, 2007, since December 2003 a total of 330 cases, with 202 deaths, of H5N1 in humans have been confirmed worldwide. Updated human case listings can be obtained at the WHO web site: http://www.who.int/csr/disease/avian_influenza/country/en/

H5N1 infections in humans can cause serious disease and death. Most of these cases have occurred from direct or close contact with infected poultry or contaminated surfaces; however, a few cases of human-to-human spread of H5N1 virus have occurred.

The H5N1 viruses currently infecting birds and some humans in Asia are resistant to amantadine and rimantadine, two antiviral medications commonly used to treat influenza. The H5N1 viruses are generally susceptible to the antiviral medications oseltamivir and zanamivir, but the effectiveness of these drugs when used for treatment of H5N1 virus infection is unknown.

An inactivated vaccine to protect humans against influenza A (H5N1) has been approved by the United States Food and Drug Administration (FDA) but is not yet commercially available within in the United States (U.S.). The U.S. has purchased the vaccine for the U.S. Strategic National Stockpile for public health purposes, if needed. For more information, please refer to: (<http://www.fda.gov/bbs/topics/NEWS/2007/NEW01611.html>)

RECOMMENDATIONS:

All patients who present to health care settings with fever and respiratory symptoms should be questioned regarding their recent travel history. The New York State Department of Health (NYSDOH) asks that health care providers perform surveillance to identify patients who meet the criteria below and immediately report any potential case to their local health department (LHD).

Surveillance Criteria for Influenza A (H5N1):

In June 2006, CDC released revised interim guidance containing surveillance case definitions of suspected Influenza A (H5N1) disease.

Patients who meet **all four** of the following criteria should be reported to the LHD **immediately**:

1. An illness that requires hospitalization or is fatal; AND
2. A current or documented temperature of $\geq 38^{\circ}\text{C}$ ($\geq 100.4^{\circ}\text{F}$); AND
3. Radiographically confirmed pneumonia, acute respiratory distress syndrome (ARDS), or other severe respiratory illness for which an alternate diagnosis has not been established; AND
4. At least one of the following potential exposures **within 10 days** of symptom onset:
 - A. History of travel to a country with influenza H5N1 documented in poultry, wild birds, and/or humans, AND had at least one of the following potential exposures during travel;
 - direct contact with (e.g., touching) sick or dead domestic poultry;
 - direct contact with surfaces contaminated with poultry feces;
 - consumption of raw or incompletely cooked poultry or poultry products;
 - direct contact with sick or dead wild birds suspected or confirmed to have influenza H5N1;
 - close contact (approach within 1 meter [approx. 3 feet]) of a person who was hospitalized or died due to a severe unexplained respiratory illness;
 - B. Close contact (approach within 1 meter [approx. 3 feet]) of an ill patient who was confirmed or suspected to have H5N1;
 - C. Worked with live influenza H5N1 virus in a laboratory

For a continually updated listing of H5N1 affected countries, visit the Web site of the World Organization of Animal Health (OIE) at http://www.oie.int/eng/en_index.htm and the WHO Web site at <http://www.who.int/en/>.

Hospitalized or ambulatory patients meeting one of the two criteria below should also be reported to the LHD. Testing for influenza A (H5N1) may be considered on a case-by-case basis in consultation with the LHD and NYSDOH:

1. A patient with mild or atypical disease (hospitalized or ambulatory) who has one of the exposures listed above (criteria A, B, or C);
2. A patient with severe or fatal respiratory disease whose epidemiological information is uncertain, unavailable, or otherwise suspicious but does not meet the criteria above (examples include: a returned traveler from an influenza H5N1-affected country whose exposures are unclear or suspicious, a person who had contact with sick or well-appearing poultry, etc.)

Reporting Requirements:

For patients meeting the above criteria:

- Immediately report any suspect influenza A (H5N1) cases to your LHD
- If unable to reach your LHD, contact the NYSDOH Bureau of Communicable Disease Control at (518) 473-4436 or the NYSDOH After Hours Duty Officer at 1-866-881-2809
- In New York City, contact the New York City Department of Health and Mental Hygiene through the Provider Access Line at 1-866-NYC-DOH1 (1-866-692-3641) during business hours. At all other times, call the Poison Control Center at 1-212-764-7667

Diagnostic Laboratory Testing:

In accordance with recommendations from the World Health Organization (WHO) released in August 2007, the testing of clinical specimens for avian (H5N1) will be performed in conjunction with testing for other influenza subtypes at the Wadsworth Center. In addition to molecular testing for seasonal and novel influenza, molecular testing for other respiratory viruses will also be performed for exclusionary purposes.

Upon recommendation by the LHD or NYSDOH Regional Epidemiologist, specimens should be submitted directly to the Wadsworth Center for laboratory testing.

Collection guidelines:

Respiratory specimens should be collected within 72 hours of symptom onset.

- The preferred sample should consist of one nasopharyngeal and one oropharyngeal swab contained in one sterile vial of at least 2ml of viral transport medium.
- Use only sterile Dacron or rayon swabs with plastic or wire shafts. Do NOT use calcium alginate or wooden shafted swabs.
- All specimens must be clearly labeled with the patient identifier, type of specimen, and date and time of collection.

- Infection control precautions during specimen collection should include the use of gloves, gown, goggles or face shield, and a fit-tested respirator with an N-95 or higher rated filter.
- While it appears that lower respiratory tract secretions may have a higher viral load than upper respiratory secretions in patients infected with the avian influenza virus (H5N1) or other novel viruses, collecting these samples may present a risk to health care providers. If appropriate personal protective equipment is not available, lower respiratory tract secretions should NOT be collected from individuals meeting the case definition of suspected H5N1.

Clinical Specimens:

- **Nasopharyngeal swab:** Use a swab with a fine, flexible metal shaft and Dacron or rayon tip. Insert swab into posterior nasopharynx and leave in place for 5 seconds to absorb secretions. Place the swab in a vial of viral transport medium. Use scissors to cut the shaft so top of vial can be screwed on tightly.
- **Oropharyngeal (throat) swab:** Swab both posterior and tonsillar areas, avoiding the tongue. Place swab in the vial of viral transport medium and break the shaft so top of vial can be screwed on tightly.
- **Nasopharyngeal aspirate:** Requires source of suction (syringe, vacuum pump, or wall suction), specimen trap with two outlets, and catheter (no. 6 to 14 depending on size of patient). Without applying suction, insert catheter through nose into posterior nasopharynx (approximately the distance from tip of the nose to the external opening of the ear when measured in a straight line). Apply gentle suction, leaving catheter in place for a few seconds, then withdraw slowly. Suction contents of a vial of viral transport medium or non-bacteriostatic saline through catheter tubing to assist in moving material from tubing into trap and to add viral transport media to specimen. Transfer specimen to a screw cap tube for transport to laboratory.
- **Nasopharyngeal wash:** Use rubber bulb (1-2oz for infants) or syringe to instill 3-5 ml of non-bacteriostatic saline into one nostril while occluding the other. If patient is able to cooperate, instruct them to close glottis by making a humming sound with mouth open. If a rubber bulb is used, release pressure on bulb to allow saline and mucus to enter bulb. Remove from nose and squeeze into vial of transport media. If syringe is used, apply suction to syringe to recover saline and nasal secretions. Alternately, hold sterile container such as urine cup under patient's nose and ask patient to expel material into it. In either case, add recovered saline-nasal secretions to a vial of viral transport media.

Additional Guidance:

- If a rapid influenza antigen detection test is performed, in accordance with CDC recommendations, it must be performed using standard BSL2 work practices in a Class II biological safety cabinet. Please note, the sensitivity of most of the influenza antigen tests has

not been thoroughly investigated for H5N1 specimens. Therefore, regardless of the result, specimens must still be referred to the Wadsworth Center for molecular testing.

- Obtain a blood specimen (not anti-coagulated) from the suspect case and submit the serum, not the blood sample, along with the respiratory samples. In addition to the patient identifier, label the serum with the date and time of collection. Paired serum specimens are required for influenza H5N1 diagnosis: one sample should be collected within the first week of illness, and a second sample should be collected 2-4 weeks later. Serum samples will be stored at Wadsworth Center until appropriate reagents become available.
- **Viral culture of any kind, including rapid shell vial methods, should NOT be performed on respiratory specimens from patients who meet the surveillance criteria described above for H5N1.** Highly pathogenic avian influenza A (H5N1) must be cultured under Biosafety Level (BSL) 3+ laboratory conditions with agricultural enhancements in laboratories that have been certified by the U.S. Department of Agriculture.

Submission Guidelines:

Upon recommendation by the LHD or NYSDOH Regional Epidemiologist, specimens should be submitted directly to the Wadsworth Center as soon as possible. **Specimens should be shipped with cold packs to keep samples at 4°C, as UN3373 “Biological Substance, Category B” according to International Air Transport Authority (IATA) and U.S. Department of Transportation (DOT) requirements.**

Submit a completed Wadsworth Center Virus History Form with the specimens. The form is available on the HPN and HIN:

<https://commerce.health.state.ny.us/hpn/hanweb/flu/virusurvrefhistoryform.pdf>

Address for courier shipping:

Wadsworth Center, NYSDOH
Griffin Laboratory – Virus Reference and Surveillance Laboratory
5668 State Farm Road (Rt. 155)
Slingerlands, NY 12159

If you have any questions with regard to influenza A (H5N1), please contact your local health department or the NYSDOH Regional Epidemiologist.

For additional information regarding the reported cases of influenza A (H5N1), see the WHO Web site www.who.int/en/. Additional information about influenza is available on the CDC Web site at www.cdc.gov.

As influenza activity changes, we will keep you apprised of updated recommendations.