Appendix G

Recommendations for Screening and Initial Management of Suspect Human Cases- Collection and Transport for testing at Public Health Laboratories

Washington State Department of Health

Influenza A H5N1

Testing available at the Public Health Laboratories

Screening patients for H5N1

Influenza A H5N1 is causing widespread outbreaks among wild and domestic birds in Asia and Eastern Europe. As of November 2005, the World Health Organization (WHO) has reported more than 120 human H5N1infections with a 50% mortality rate. At this time, person-to-person transmission appears to be rare, but travelers from affected areas with serious respiratory illness could be infected with H5N1.

To rapidly detect and control imported influenza A H5N1, we are asking healthcare providers to immediately notify their local health department of any patient who has:

- **Traveled to areas reporting avian or human H5N1 within 10 days of onset, *AND***
- **Has severe respiratory disease, including pneumonia or acute respiratory distress syndrome (ARDS), for which no alternative cause is established, *OR***
- **Milder illness with fever (>100.4°F [38°C]) and respiratory symptoms (cough, sore throat or shortness of breath) following contact with live birds or persons with suspected or confirmed influenza A H5N1 during travel**

Infection control for patients with suspected or confirmed H5N1 should include standard and droplet precautions. Airborne precautions should be used for procedures that may aerosolize respiratory secretions.

We encourage providers to obtain travel histories from patients with severe respiratory illness. Avian H5N1 has been reported in Cambodia, China, Croatia, Indonesia, Kazakhstan, Kuwait, Mongolia, Russia, Thailand, Turkey and Vietnam and in birds smuggled to Taiwan, Belgium and the United Kingdom. Updated information on H5N1 activity is available on the WHO and Centers for Disease Control and Prevention (CDC) websites:

WHO: http://www.who.int/csr/disease/avian_influenza/en/
CDC: http://www.cdc.gov/flu/avian/index.htm

Laboratory diagnosis of suspected H5N1 influenza

Your local health department will facilitate diagnostic testing at the Washington State Department of Health Public Health Laboratories (PHL). ***Please do not submit specimens to a commercial laboratory, which may cause a delay in confirming the diagnosis***. The PHL performs H antigen subtyping of influenza by polymerase chain reaction assay. H5N1 is considered to have pandemic potential and specimens identified as influenza A H5 or another novel subtype will go to CDC for further identification and viral isolation under enhanced biosafety level 3 conditions.

To maximize the detection of influenza, specimens should be collected within three days of symptom onset. Collect serum for antibody testing and at least one of the following:

a. Oropharyngeal swab, nasopharyngeal swab or aspirate
b. Bronchoalveolar lavage, tracheal aspirate or pleural fluid as appropriate

Detailed instructions for collecting each specimen are attached

Washington State Department of Health

Influenza A H5N1

Collecting Specimens for Diagnostic Testing at the Public Health Laboratories

Collection and transport of specimens for influenza H5N1 testing

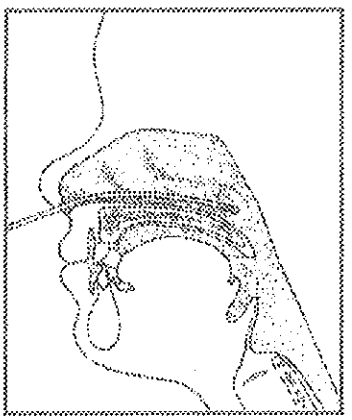
> ***All testing should be performed using appropriate infection control precautions.***
>
> ***No specimens will be accepted at PHL without the notification and approval of your local health department***

Oropharyngeal swab specimen collection*

1. Use only sterile Dacron or rayon swabs with wire or plastic shafts. Swab the posterior oropharynx and tonsillar area, avoiding the tongue.
2. Place the swab immediately into a sterile vial containing 2 mL of viral transport media. Break off or bend the end of the applicator shaft to close the vial tightly.
3. Label the vial with the patient's name, specimen source and date obtained.

Nasopharyngeal swab specimen collection*

1. Use only sterile Dacron or rayon swabs with wire shafts. Insert the swab into the nostril parallel to the palate until resistance is met by contact with the nasopharynx. Leave the swab in for a few seconds. If possible, do the other nostril with the same swab.
2. Place the swab immediately into sterile vials containing 2 mL of viral transport media. Break off or bend the end of the applicator shaft to close the vial tightly.
3. Label the vial with the patient's name, specimen source and date obtained.



Nasopharyngeal aspirate specimen collection*

1. Have the patient sit with head tilted slightly backward.
2. Instill 1-1.5 mL of nonbacteriostatic saline into one nostril.
3. Flush a plastic catheter with 2-3 mL of nonbacteriostatic saline.
4. Insert the catheter into the nostril parallel to the palate until resistance is met by contact with the nasopharynx. Aspirate the nasopharyngeal contents. If possible, repeat with the other nostril.
5. Instill the aspirate into sterile vials, and label the vials with the patient's name, specimen source and date obtained.

Bronchoalveolar lavage, tracheal aspirate or pleural fluid specimen collection

1. During lavage or aspirate, use a double-tube system.
2. Centrifuge half of the specimen, and fix the cell pellet in formalin. Place the remaining unspun fluid in sterile vials with external caps and internal O-ring seal, then seal tightly with the available cap and secure with adhesive tape.
3. Label each specimen with the patient's name, specimen source and date obtained.

**Multiple naso- or oropharyngeal specimens can be combined in a single viral medium transport tube.*

Washington State Department of Health

Influenza A H5N1

Collecting Specimens for Diagnostic Testing at the Public Health Laboratories

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Blood specimen collection

1. Antibody testing requires both acute (<7 days of onset) and convalescent (2-4 weeks after onset) serum specimens.
2. Collect 5-10 cc of whole blood in a serum separator tube. Allow the blood to clot, centrifuge briefly, and collect all the sera in vials with external caps and internal O-ring seals. If no O-ring vials are available, seal the existing cap with adhesive tape.
3. The minimum amount of serum needed for testing is 200 μl.
4. For pediatric patients, a minimum of 1 cc of whole blood is needed. Ideally, collect 1 cc in a serum separator and 1 cc in an EDTA tube. If only 1 cc can be collected, collect in a serum separator.
5. Label each specimen with the patient's name and date obtained.

Storage: All respiratory and blood specimens should be refrigerated at 4°C until ready for transport. Transport on ice packs.

Each specimen must be accompanied by a completed PHL **Viral Examination Form** which includes:

Patient name
Specimen collection date
Date of symptom onset
Source of specimen
Test requested
Submitter name, mailing address

Packaging: Pack and label specimens as Diagnostic Specimens or Clinical Specimens. Pack and label viral isolates as Infectious Substances, UN 2814. Pack and ship according to United States Department of Transportation and United States Postal Service regulations. Specimens that leak in transit or do not have appropriate identification of the patient on the tube will be rejected. Specimens without collection date, submitter name and address or requested test will be delayed for reporting until the missing information is received.

Transport: Every attempt should be made to transport specimens to the PHL on ice packs within 24 hours of collection.

Contact information for local health departments can be found at:
http://www.doh.wa.gov/LHJMap/LHJMap.htm

For additional information or questions, please contact Washington State Department of Health Communicable Disease Epidemiology Section at 206.418.5500.

Avian Influenza A (H5N1): Recommendations for Screening & Initial Management of Suspect Human Cases

The newly released HHS Pandemic Influenza Plan is now available at: www.hhs.gov/pandemicflu/plan. The Plan has useful planning advice for clinicians in health care facilities and out-patient care settings, with supplements on clinical management, inflection control, and lab testing. We are currently in a "Pandemic Alert Period" for the avian influenza A (H5N1) virus. A summary of surveillance, testing, and initial management recommendations for human cases of avian influenza A at this time (H5N1) follows. Information will be updated as necessary.

Testing for avian influenza A (H5N1) is indicated for *hospitalized* patients with:

- **Radiographically confirmed pneumonia, acute respiratory distress syndrome or other severe respiratory illness for which an alternative diagnosis has not been established, AND**
- **History of travel within 10 days of symptom onset to a country with documented avian influenza A (H5N1) infections in poultry and/or humans.**
- **Testing for avian influenza A (H5N1) should be considered on a case-by-case basis (consult with Public Health) for *hospitalized or ambulatory patients* with:**
- **Influenza-like illness (ILI): Temperature >100.4°F (>38°C) PLUS one or more of the following: cough, sore throat, or shortness of breath; AND**
- **History of contact with poultry (e.g., visited a poultry farm, a household raising poultry, or a bird market) or a known or suspected human case of influenza A (H5N1) in an H5N1-affected country within 10 days prior to onset of symptoms.**

For a regularly updated listing of H5N1-affected countries, see the World Organization for Animal Health [OIE] website at www.oie.int/eng/en_index.htm and the WHO website at www.who.int/en).

When a patient meets both clinical and epidemiologic criteria for a suspected case of novel influenza:

- **Implement infection control precautions:** Patients should be placed on Droplet Precautions for a minimum of 14 days, unless there is full resolution of illness or another etiology has been identified before that period has elapsed. Healthcare personnel should wear surgical or procedure masks on entering a patient's room, as per Droplet Precautions, as well as gloves and gowns, when indicated for Standard Precautions. Patients should be admitted to a single-patient room, and patient movement and transport within the hospital should be limited.

- **Notify Public Health:** Report each patient who meets the clinical and epidemiologic criteria for a suspected case of novel influenza as quickly as possible to facilitate initiation of public health measures.

- **Obtain clinical specimens for testing by the Washington State Public Health Laboratory (WA PHL):** If feasible, all of the following specimens should be collected for novel influenza A virus testing: throat swab, nasopharyngeal swab; nasal swab, wash, or aspirate; and tracheal aspirate (for intubated patients). Store specimens at 4°C in viral transport media. Acute (within 7 days of onset) & convalescent serum specimens (2–3 weeks after the acute specimen and ≥3 weeks after onset) should be obtained & refrigerated at 4°C or frozen at minus 20–80°C.

NOTE: Avian influenza can be identified by RT-PCR at the WA PHL ONLY after reporting the case to Public Health at 206-296-4774. WA PHL will not accept specimens for testing without prior approval from Public Health – Seattle & King County.

Although some commercial laboratories may offer testing for novel influenza viruses, at this time results from these laboratories will not be interpretable without confirmatory testing at the WA PHL. For this reason, Public Health does not recommend specimens be submitted to commercial laboratories for novel influenza virus testing.

Viral culture of specimens from suspected novel influenza cases can be attempted only in laboratories that meet the biocontainment conditions for BSL-3 with enhancements or higher (CDC) and should not be attempted in clinical laborotories.

Rapid influenza diagnostic tests and immunofluorescence (IF) tests may be used to detect seasonal influenza, but **should not be used to confirm or exclude novel influenza during the Pandemic Alert Period**. Rapid influenza tests have relatively low sensitivity for detecting seasonal influenza, and their ability to detect novel influenza subtypes is unknown. Such tests cannot distinguish between infection with seasonal and novel influenza A viruses. A negative rapid influenza test result does not necessarily exclude infection with either seasonal or novel influenza A viruses, and a positive rapid influenza test result could be a false positive or represent infection with either seasonal or novel influenza A viruses. Therefore, both negative and positive rapid influenza test and IF results should be interpreted with caution. Acute and convalescent serum samples and other available clinical specimens (respiratory, blood, and stool) should be saved and refrigerated or frozen for additional testing until a specific diagnosis is made.

- **Evaluate alternative diagnoses.** If an alternate etiology is identified, the possibility of co-infection with a novel influenza virus may still be considered if there is a strong epidemiologic link to exposure to novel influenza.

- **Decide on inpatient or outpatient management.** The decision to hospitalize a suspected novel influenza case will be based on the clinical assessment, assessment of risk, and whether adequate precautions can be taken at home to prevent the potential spread of infection. Patients cared for at home should be separated from other household members as much as possible. All household members should carefully follow recommendations for hand hygiene, and tissues used by the ill patient should be placed in a bag and disposed with other household waste. **Consult with Public Health before discharging any patient with suspected avian influenza A (H5N1).**

- **Initiate antiviral treatment** as soon as possible, even if laboratory results are not yet available. Clinical trials have shown that these drugs can decrease the illness due to seasonal influenza duration by several days when they are initiated within 48 hours of illness onset. The clinical effectiveness of antiviral drugs for treatment of novel influenza is unknown, but it is likely that the earlier treatment is initiated, the greater the likelihood of benefit.

For additional information, including a CLINICAL FLOW CHART and links to the HHS Pandemic Plan, see Public Health's Pandemic Flu Web Page: at www.metrokc.gov/health/pandemicflu

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Seasonal Influenza Vaccine Update

Public Health is facilitating the redistribution of available vaccine from those who are willing to sell vaccine at cost to others who are in need. To report vaccine to sell or needed, contact Public Health at: vaccineinfo@metrokc.gov or (206) 296-4775. Please note that there currently is adequate supply of flu vaccine for high risk children through the Vaccines for Children (VFC) program; VFC providers who do not have enough pediatric flu vaccine should contact Public Health.

Frequently Asked Questions about Live Attenuated Influenza Vaccine

Can Health Care Workers receive FluMist? Yes! Healthy, non-pregnant, health care workers (HCWs) are excellent candidates for LAIV. HCWs who receive LAIV are unlikely to pose a risk to the majority of patients through shedding of the vaccine virus. Only HCWs who work with severly immune compromised patients in a protective environment (e.g., hematopoisetic stem cell transplant recipients) should refrain from care of these patients for 7 days after receipt of LAIV.

Some of my patients are immunocompromised. Can I give FluMist in my office? Yes! The only exception would be if you were caring for severely immune compromised patients in a protective environment (e.g., hematopoisetic stem cell transplant recipients).

In my office there are HCPs who are pregnant, HCPs who are over 50, and HCPs with asthma. Can any of them administer FluMist? Yes! HCWs who are at risk for severe complications from influenza infection, with the exception of severely immune compromised patients in a protective environment (e.g., hematopoisetic stem cell transplant recipients), may administer LAIV.

Are there any advantages to using FluMist? LAIV may promote a stronger immune response because it induces both serum antibody and local secretory antibody.

Communicable Disease and Epidemiology contact information

> Disease reporting

AIDS	(206) 296-4645
Sexually Transmitted Diseases	(206) 731-3954
Tuberculosis	(206) 731-4579
Other Communicable Diseases	(206) 296-4774
Automated 24-hour reporting line for conditions not immediately notifiable	(206) 296-4782

> Hotlines

Communicable Disease Hotline	(206) 296-4949
HIV/STD Hotline	(206) 205-7837

> For health providers:

- **Health Provider homepage**
  Resources to fact sheets, updated news, vaccine information, health educational materials and external links.
  www.metrokc.gov/health/providers