

Revised guidelines for reporting patients with suspected H5N1

Influenza A H5N1 is causing widespread outbreaks among wild and domestic birds in Africa, Asia and Europe. As of August 2011, the World Health Organization (WHO) reported 564 laboratory-confirmed human H5N1 infections and 330 deaths (~60% mortality rate). Virtually all reported human infections result from contact with infected domestic birds. Rare person-to-person transmission of H5N1 has occurred but has not been sustained. Providers should obtain travel histories from patients with severe respiratory illness since H5N1 infection might occur among travelers from affected areas.

To rapidly detect and control imported H5N1, healthcare providers should notify their local health jurisdiction immediately regarding:

1. Patients with severe, febrile (documented fever >100.4°F [38°C]) respiratory disease, including pneumonia or acute respiratory distress syndrome (ARDS), for which no alternative cause is established AND
 - Worked with lab samples suspected or confirmed to contain H5N1 virus within 7 days of onset OR
 - Traveled to areas reporting avian or human H5N1 within 7 days of onset AND
 - Touched well-appearing, sick or dead poultry or wild birds OR
 - Touched surfaces contaminated with bird excretions or body parts OR
 - Consumed raw or incompletely cooked poultry OR
 - Touched sick or dead poultry or wild birds suspected to have H5N1 or had close contact with other confirmed H5N1-infected animal OR
 - Had close contact (within 6 feet) with a person confirmed or suspected to have H5N1 or hospitalized with and/or died of a severe, unexplained respiratory illness OR
 - Visited a market where live poultry are sold or slaughtered.
2. Testing will be considered on a case-by-case basis for:
 - Patients with a mild febrile respiratory illness and an above risk factor OR
 - Travelers with severe or fatal respiratory illness who cannot provide risk factor information.

Infection control for patients with suspected or confirmed H5N1 is essential and should include standard, contact and airborne precautions. For infection control recommendations see: <http://www.cdc.gov/flu/avian/professional/infect-control.htm>

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>

Contact information for local health departments: <http://www.doh.wa.gov/LHJMap/LHJMap.htm>
For additional information, please contact the Washington State Department of Health Communicable Disease Epidemiology Section 24/7 at 206.418.5500 or 877.539.4344.

Laboratory diagnosis of suspected H5N1 influenza

- Your local health jurisdiction will facilitate diagnostic testing at the Washington State Department of Health Public Health Laboratories (PHL), so please contact that agency for instructions on sending specimens to PHL (<http://www.doh.wa.gov/LHJMap/LHJMap.htm>).
- A real-time reverse transcriptase polymerase chain reaction (RT-PCR) test developed by the Centers for Disease Control and Prevention is used to detect H5N1 in clinical specimens. Specimens testing positive at PHL will be forwarded to CDC for confirmatory testing.
- Personal protective equipment (PPE) should be worn for any direct or close contact with a suspected or confirmed H5N1 patient or when entering a room where aerosol-generating procedures in such patients are being performed. PPE includes a fit-tested respirator with an N-95 or higher rated filter, goggles, face shield, gloves, gown and head cover.
- Although specimens of the upper respiratory tract (nasopharyngeal, nasal, and throat swabs, etc.) are acceptable for testing, oropharyngeal and lower respiratory tract specimens have the highest yield for H5N1.
- To maximize the detection of influenza, multiple respiratory specimens should be collected on consecutive days, if possible.
- The use of rapid influenza diagnostic test is not recommended for detecting H5N1 infections. Clinicians should be aware that these tests have very low sensitivities to detect H5N1 virus compared to other methods, and a negative result does not exclude a diagnosis of H5N1 virus infection.
- Serum antibody testing can be useful if respiratory specimens cannot be obtained. Both acute (within seven days of onset) and convalescent (2–4 weeks following the acute specimen) serum specimens should be collected. Specimens will be forwarded to CDC for serologic testing so results may be delayed.

Please do not submit suspected H5N1 specimens to a commercial laboratory, which can delay confirmation of H5N1 infection.

Detailed instructions for collecting and transporting specimens follow.

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*Always use appropriate infection control precautions
when performing diagnostic procedures.
PHL will not accept specimens without notification and approval
of the local health jurisdiction.*

Oropharyngeal swab specimen collection

1. Use only sterile Dacron or rayon swabs with wire or plastic shafts. Swabs with calcium alginate or cotton tips and wooden shafts are not recommended. Swab posterior oropharynx and tonsillar areas, avoiding the tongue.
2. Place swab immediately into a sterile vial containing 2 mL of viral transport media. Break off or bend applicator shaft to close vial tightly.
3. Label vial with patient's name and another identifier (e.g., date of birth), specimen source and date obtained.

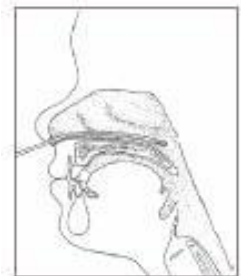
Bronchoalveolar lavage or tracheal aspirate specimen collection

1. During lavage or aspirate procedure, use a double-tube system.
2. Place lavage or aspirate material in a sterile vial containing viral transport media and tightly seal the vial.
3. Label the specimen with patient's name and another identifier (e.g., date of birth), specimen source and date obtained.

Oropharyngeal or lower respiratory specimens are preferred; collect nasopharyngeal specimens only when oropharyngeal, bronchoalveolar lavage or tracheal aspirate specimens cannot be obtained

Nasopharyngeal (NP) swab specimen collection

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



Nasopharyngeal (NP) aspirate specimen collection

1. Fill a syringe with 1–4 mL of nonbacteriostatic saline. Amount depends on the size and age of patient. Connect a small piece of plastic tubing to the end of the syringe.
2. Place patient with head tilted slightly backward.
3. Insert tubing into nostril parallel to the palate.
4. Instill saline into nostril and quickly aspirate the NP contents. If possible, repeat with the other nostril.
5. Instill the aspirate into a sterile vial containing 2 ml viral transport media.
6. Label vial with the patient's name and another identifier (e.g., date of birth), specimen source and date obtained.

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 blood to clot, centrifuge briefly, and collect all sera in vials with external caps and internal O-ring seals. If no O-ring vials are available, seal 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 patient's name and another identifier (e.g., date of birth), and date obtained.

Storage: Every attempt should be made to collect and transport specimens to the PHL within 24 hours. Respiratory and blood specimens should be refrigerated (2 - 8°C) immediately after collection until ready for transport. If respiratory specimens will not be shipped to the PHL for arrival within 72 hours after collection, then they should be frozen at $\leq -70^{\circ}\text{C}$.

Ship specimens along with a completed PHL virology submission forms (available at: <http://www.doh.wa.gov/ehsphi/PHL/Forms/SerVirHIV.pdf>) **indicating the specimen is from a suspect H5N1 case to:**

Washington State Public Health Laboratories
Attn: Virology Laboratory
1610 NE 150th Street
Shoreline, WA 98155

Packaging: Pack and label specimens as Diagnostic 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 patient identification on the vial/tube will be rejected. Specimens without collection date, submitter name and address or requested test maybe delayed for reporting until the missing information is received.

Transport: Freshly-collected respiratory specimens and all blood specimens should be stored refrigerated and shipped cold (not frozen) on ice packs. Previously-frozen specimens should be shipped on dry ice.