

Public Health – Seattle & King County

Avian Influenza A (H5N1): Case Detection & Initial Management During the Pandemic Alert Period*

22 November 2005

Laboratory Testing For Novel Influenza Virus Recommended For:

- Hospitalized patients with severe influenza-like illness (ILI) including pneumonia *who meet epidemiologic criteria*
- Non-hospitalized patients with less severe ILI & *strong epidemiologic suspicion* for exposure to novel influenza virus¹

Clinical Criteria

ILI with temperature $>38^{\circ}\text{C}$ AND one or more of the following: cough, sore, throat, or dyspnea

AND

Epidemiologic Criteria

Ask the patient about the following *within 10 days* of symptom onset:

- History of recent *travel* to an affected area² AND at least one of the following:
 - Direct contact with poultry or poultry products³, *or*
 - Close contact with a person with suspected or confirmed novel influenza⁴, *or*
 - Close contact with a person who died or was hospitalized due to a severe respiratory illness³
- Employment in an *occupation* at particular risk for novel influenza exposure, i.e.:
 - A health care worker in direct contact with a suspected or confirmed novel influenza case, *or*
 - A worker in a laboratory that contains live novel influenza virus, *or*
 - A worker in a poultry farm, live poultry market, or poultry processing operation with known or suspected avian influenza infection

If YES to either epidemiologic criterion

- Initiate Standard and Droplet Precautions⁵
- **Notify Public Health at 206-296-4774**
- Collect and submit specimens for influenza virus testing after consultation with Public Health⁸
- Treat as clinically indicated⁶
- Initiate general work-up as clinically indicated⁷
- Begin empiric antiviral treatment⁹
- Help identify contacts, including HCWs¹⁰

If NO to both epidemiologic criteria

Treat as clinically indicated; re-evaluate if suspicion increases

Novel Influenza Positive by RT-PCR or culture

- Continue Standard and Droplet Precautions⁵
- Continue antivirals⁹
- Do not cohort with seasonal influenza patients
- Treat complications, such as 2^o bacterial pneumonia¹²
- Provide clinical updates to Public Health

All influenza testing negative¹²

- Continue infection control precautions, as appropriate⁵
- Treat complications, such as 2^o bacterial pneumonia¹²
- Consider discontinuing antivirals, if appropriate⁹

Seasonal influenza positive by culture or RT-PCR

- Continue Standard and Droplet Precautions⁵
- Continue antiviral treatment for a minimum of 5 days⁹
- Treat complications, such as secondary bacterial pneumonia, as indicated¹²

*No human cases of novel influenza are present in the community. Human cases might be present in another country or another region of the United States. Adapted from HHS Pandemic Influenza Plan Supplement 5, available at: <http://www.hhs.gov/pandemicflu/plan/>

Report all suspected cases to Public Health at 206-296-4774

Footnotes (HHS Pandemic Influenza Plan and Supplements are available at: <http://www.hhs.gov/pandemicflu/plan/>)

1. Further evaluation and diagnostic testing should be considered for outpatients with strong epidemiologic risk factors and mild or moderate illness: CONSULT WITH PUBLIC HEALTH.
2. Updated information on areas where novel influenza virus transmission is suspected or documented is available on the CDC website at www.cdc.gov/travel/other/avian_flu_ah5n1_031605.htm and on the WHO website at www.who.int/en/.
3. For persons who live in or visit affected areas, **close contact** includes touching live poultry (well-appearing, sick or dead) or touching or consuming uncooked poultry products, including blood. For animal or market workers, it includes touching surfaces contaminated with bird feces. In recent years, most instances of human infection with a novel influenza A virus having pandemic potential, including influenza A (H5N1), are thought to have occurred through direct transmission from domestic poultry. A small number of cases are also thought to have occurred through limited person-to-person transmission or consumption of uncooked poultry products. Transmission of novel influenza viruses from other infected animal populations or by contact with fecally contaminated surfaces remains a possibility. These guidelines will be updated as needed if alternate sources of novel influenza viruses are suspected or confirmed.
4. **Close contact** includes direct physical contact, or approach within 3 feet of a person with suspected or confirmed novel influenza.
5. Standard and Droplet Precautions should be used when caring for patients with novel influenza or seasonal. Information on infection precautions that should be implemented for all respiratory illnesses (i.e., Respiratory Hygiene/Cough Etiquette) is provided at: www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm
6. Hospitalization should be based on all clinical factors, including the potential for infectiousness and the ability to practice adequate infection control. If hospitalization is not clinically warranted, and treatment and infection control is feasible in the home, the patient may be managed as an outpatient: CONSULT WITH PUBLIC HEALTH before discharging patients with suspected novel influenza virus infection. The patient and his or her household should be provided with information on infection control procedures to follow at home. The patient and close contacts should be monitored for illness by Public Health staff.
7. The general work-up should be guided by clinical indications. Depending on the clinical presentation and the patient's underlying health status, initial diagnostic testing might include:
 - Pulse oximetry
 - Chest radiograph
 - Complete blood count (CBC) with differential
 - Blood cultures
 - Sputum (in adults), tracheal aspirate, pleural effusion aspirate (if pleural effusion is present) Gram stain and culture
 - Antibiotic susceptibility testing (encouraged for all bacterial isolates)
 - Multivalent immunofluorescent antibody testing or PCR of nasopharyngeal aspirates or swabs for common viral respiratory pathogens, such as influenza A & B, adenovirus, parainfluenza viruses, and RSV, particularly in children
 - In adults with radiographic evidence of pneumonia, *Legionella* and pneumococcal urinary antigen testing
 - If clinicians have access to rapid and reliable testing (e.g., PCR) for *M. pneumoniae* and *C. pneumoniae*, adults and children <5 yrs with radiographic pneumonia should be tested.
 - Comprehensive serum chemistry panel, if metabolic derangement or other end-organ involvement is suspected
8. Guidelines for novel influenza virus testing can be found in **HHS Plan Supplement 2**. All of the following respiratory specimens should be collected for novel influenza A virus testing: nasopharyngeal swab; nasal swab, wash, or aspirate; throat swab; and tracheal aspirate (for intubated patients), stored at 4°C in viral transport media; and acute and convalescent serum samples.
9. Strategies for the use of antiviral drugs are provided in **HHS Plan Supplement 7**.
10. Guidelines for the management of contacts in a healthcare setting are provided in **HHS Plan Supplement 3**.
11. Given the unknown sensitivity of tests for novel influenza viruses, interpretation of negative results should be tailored to the individual patient in consultation with the local health department. Novel influenza directed management may need to be continued, depending on the strength of clinical and epidemiologic suspicion. Antiviral therapy and isolation precautions for novel influenza may be discontinued on the basis of an alternative diagnosis. The following criteria may be considered for this evaluation:
 - Absence of strong epidemiologic link to known cases of novel influenza
 - Alternative diagnosis confirmed using a test with a high positive-predictive value
 - Clinical manifestations explained by the alternative diagnosis
12. Guidance on the evaluation and treatment of suspected post-influenza community-associated pneumonia is provided in **HHS Plan Appendix 3**.