Recommended Clinical Evaluation for Suspect H5N1 Influenza During Pandemic Alert Period -- Pre-Pandemic -- (December 2008)

Pandemic Alert Period means that no human cases of H5N1 avian influenza infection are occurring in the community; human cases may be present elsewhere in the world or other region of U.S., but no pandemic is declared and there is no sustained human-to-human transmission.

- **H5N1 testing is needed when both epidemiologic and clinical criteria are met.**
- **With any possible case or with questions, notify the Minnesota Department of Health (MDH) at 651-201-5414 or 1-877-676-5414 (24 hours**).

Epidemiologic criteria for suspect H5N1 avian influenza currently***** include:

1. Travel to, or resident of, area affected by H5N1 avian influenza (poultry, wild birds, or humans)† within 7 days of symptom onset

   AND had at least ONE of the following during travel

   a) Direct contact (e.g. handling, slaughtering, defeathering, butchering, preparation for consumption) with poultry or wild birds or their remains; *or*

   b) Direct contact with environments contaminated by poultry feces or poultry parts; *or*

   c) Consumption of raw or incompletely cooked poultry or poultry products; *or*

   d) Close contact (approach within 6 feet) with a confirmed H5N1 infected animal other than birds (e.g. cat or dog); *or*

   e) Close contact‡ with a person who was hospitalized or died due to severe unexplained respiratory illness; *or*

   f) Visited a market where live poultry were sold or slaughtered.

OR

2. Close contact‡ with someone known or suspected to have H5N1 avian influenza, in the past 7 days.

OR

3. Had other possible occupational exposure to H5N1 virus, in the past 7 days, including:

   a) Healthcare workers (HCWs) or others in contact with patients known or suspected to have H5N1 infection; *or*

   b) Handling samples (animal or human) suspected of carrying H5N1 virus in a laboratory or other setting.

AND

Clinical criteria currently* include:**§**

1. Requires hospitalization or is fatal; *AND*
2. Temperature of ≥38°C (≥100.4° F) in the past 24 hours, or a history of feverishness in the past 24 hours; *AND*
3. Has x-ray findings of pneumonia, or acute respiratory distress syndrome (ARDS), or other severe respiratory illness.

If some, but not all, epidemiologic or clinical criteria are met, infection control and testing may still be needed. For example, if disease is mild or atypical, testing may be recommended on a case by case basis.

1. Infection Control**
Use as many of the following components of *full barrier precautions* as possible: respiratory protection (N95 respirator or powered-air purifying respirator [PAPR]), gown, gloves, face shield/goggles and excellent hand hygiene. Place patient in negative pressure room, if available, or in a private room with door closed. Place a surgical mask on patient, if it can be tolerated.

2. Notify MDH
Notify MDH of case at **651-201-5414 or 1-877-676-5414 (24 hours)** to discuss possible testing and follow-up (see below).

3. Health Care Workers
Make note of HCWs who had contact with patient; as possible, limit the number of HCWs who have contact with the patient.

Initiate Clinical Evaluation:

Use *full barrier precautions* (airborne, contact, plus face/eye protection, in addition to standard precautions), including a PAPR or N95 respirator, when collecting respiratory specimens.**

1. Pulse oximetry, chest radiograph, complete blood count with differential, blood cultures, serum chemistries, as indicated. Serum for acute serology (convalescent serology after 2-4 weeks).
2. **Rapid influenza testing is not recommended. Do not attempt to perform viral culture – BSL3+ or higher facility required.**
3. **Testing at MDH:** Collect specimens for PCR testing for H5N1 virus. For swabs, use a dacron swab with a plastic or aluminum shaft (not recommended: calcium alginate or cotton swabs or wooden shafts). Store in sterile viral transport media and hold at 4º C (39º F) until transport to MDH Laboratory can be arranged (MDH epidemiologist will assist in arranging transport and can provide more detail on transport media). Specimens will be used for H5N1 evaluation and for evaluation of other respiratory pathogens by PCR. Other specimens may be requested depending on clinical features.
4. Sputum culture and gram stain (and/or tracheal aspirate, if intubated; pleural effusion aspirate, if present). Antimicrobial susceptibility testing for bacterial isolates.
5. Consider diagnostic testing for other pathogens that cause acute febrile respiratory illness. In adults with x-ray findings of pneumonia, consider urine antigen testing for *Legionella pneumophila* and *Streptococcus pneumoniae.*

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a) 2 throat swabs
b) 1 nasopharyngeal swab or a nasal wash or aspirate
c) If available, bronchoalveolar lavage (BAL) or tracheal aspirate (if intubated)**
d) Other respiratory specimens obtained as part of clinical care may be submitted
e) Other non-respiratory specimens may be requested*§

Treatment, prophylaxis, and ongoing monitoring:

1. Clinical treatment including antibacterial agents and antiviral agents (neuraminadase inhibitors) as indicated. Antivirals should be started as soon as possible (most efficacious if used within 48 hours). Note: antiviral recommendations are evolving. Standard adult treatment dose of oseltamivir is 75 mg bid x 5 days. See product information for pediatric dosing. Some clinicians recommend a higher dose and duration of oseltamivir for seriously ill patients (150 mg bid x 7-10 days for adults). Consultation with ID clinician recommended.
2. Antiviral prophylaxis with a neuraminadase inhibitor (e.g. oseltamivir) is recommended for close contacts‡ of a suspect or confirmed H5N1 case during the case's symptomatic period. Antivirals should be started as soon as possible and continued for 7 days following the last contact with the case.
3. Complete H5N1 Avian Influenza Screening Form (MDH website: www.health.state.mn.us), including any initial information about persons who had contact with the patient when they were symptomatic.
4. MDH (651-201-5414) will provide assistance with diagnostic evaluation and results, contact tracing, isolation/quarantine issues, and case status.

Footnotes

* Changes in epidemiologic criteria or clinical evaluation recommendations will be posted at: http://www.cdc.gov/flu/avian/index.htm and http://www.health.state.mn.us.

† The latest information on the geographic locations of H5N1 in humans can be found at the World Health Organization (WHO) website: http://www.who.int/csr/disease/avian_influenza/en/ and geographic locations of H5N1 in animals can be found at the World Organization for Animal Health (OIE) website: http://www.oie.int/eng/info_ev/en_AI_avianinfluenza.htm.

‡ Close contact is defined as caring for, or living with, a person known to have H5N1 avian influenza or having a high likelihood of direct contact with respiratory secretions and/or body fluids of such a person. Examples of close contact include kissing or embracing, sharing eating or drinking utensils, close conversation (within 6 feet), physical examination, and any other direct physical contact between persons. Close contact does not include activities such as walking by a person or briefly sitting across from a patient in a waiting room or office.

** Performing aerosol generating procedures in the outpatient setting should be avoided if possible. These include bronchoscopy, nebulizer treatment, endotracheal intubation, and other activities that could produce aerosols. Powered-air purifying respirators (PAPRs) offer better respiratory protection than N95 respirators, but need to have HEPA filtration to trap airborne particles. In addition, staff should use full barrier precautions (gloves, gown, face shield/goggles) for these procedures.

§ Typical symptoms are respiratory; however, note that some cases have presented with encephalitis or diarrhea.

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