

Michigan Department of Community Health Reporting and Laboratory Guidelines for Avian Influenza H5N1

December 1, 2008

The Centers for Disease Control and Prevention (CDC) has updated their guidance for laboratory testing of persons with suspected infection of Avian Influenza A (H5N1) virus in the United States that contains epidemiological criteria and specimen collection. This is an update from the June 2006 version and the document can be found on the Michigan Health Alert Network and the MDCH influenza website at www.michigan.gov/flu in the Avian Influenza section.

Testing for avian influenza A (H5N1) virus infection is recommended for an illness that:

- Requires hospitalization or is fatal; **AND**
- Had a temperature of $\geq 38^{\circ}\text{C}$ ($\geq 100.4^{\circ}\text{F}$) in the past 24 hours OR a history of feverishness in the past 24 hours); **AND**
- Has radiographically confirmed pneumonia, acute respiratory distress syndrome (ARDS), or other severe respiratory illness for which an alternate diagnosis has not been established; **AND**
- Has at least one of the following potential exposures within 7 days of symptom onset:
 - A) History of travel to a country with avian 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., handling, slaughtering, defeathering, butchering, preparing for consumption) well-appearing, sick or dead domestic poultry or wild birds
 - Direct contact with surfaces contaminated with poultry feces or poultry parts (carcasses, internal organs)
 - Consumption of raw or incompletely cooked poultry or poultry products
 - Close contact (approach within 6 ft) with a confirmed H5N1-infected animal besides poultry or wild birds (e.g. cat or dog)
 - Close contact (approach within 6 ft) of a person hospitalized or dead due to a severe unexplained respiratory illness
 - Visiting a market where live poultry are sold or slaughtered
 - Handling samples (animal or human) suspected of containing H5N1 virus in a laboratory or other setting
 - B) Close contact (approach within 6 ft) of an ill person who was confirmed or suspected to have H5N1.
 - C) Worked with live influenza H5N1 virus in a laboratory.
- Testing may be deemed necessary after consultation with Michigan Department of Community Health for a patient with mild or atypical disease who has one of the exposures in “bullet A” above **OR** a patient with severe or fatal respiratory disease whose epidemiological information

is uncertain, unavailable or otherwise suspicious but does not meet the criteria below

Ordering tests for Avian Influenza A (H5N1):

For tests sent to Michigan Department of Community Health Laboratory the request needs to be approved by the Bureau of Epidemiology (BOE). BOE can be contacted Monday thru Friday 8am to 5pm at (517) 335-8165 or after hours and weekends at (517) 335-9030.

Specimen collection guidelines:

- Oropharyngeal swab specimens and lower respiratory tract specimens (e.g., bronchoalveolar lavage or tracheal aspirates) are preferred because they appear to contain the highest quantity of virus for influenza H5N1 detection. Nasal or nasopharyngeal swab specimens are acceptable, but may contain less virus and therefore not be optimal specimens for virus detection.
 - Bronchoalveolar lavage is considered to be a high-risk aerosol-generating procedure. Therefore, infection control precautions should include the use of gloves, gown, goggles or face shield, and a fit-tested respirator with an N-95 or higher rated filter. A loose-fitting powered air-purifying respirator (PAPR) may be used if fit-testing is not possible.
- Detection of influenza H5N1 is more likely from specimens collected within the first 3 days of illness onset. If possible, serial specimens should be obtained over several days from the same patient.
- Swabs used for specimen collection should have a Dacron tip and an aluminum or plastic shaft. Swabs with calcium alginate or cotton tips and wooden shafts are not recommended. Specimens should be placed at 4°C immediately after collection.
- Commercial rapid influenza antigen testing in the evaluation of suspected influenza H5N1 cases should be interpreted with caution. Clinicians should be aware that these tests have relatively low sensitivities, and a negative result would not exclude a diagnosis of influenza H5N1. In addition, a positive result does not distinguish between seasonal and avian influenza A viruses.
- Serologic testing for influenza H5N1-specific antibody, using appropriately timed specimens, can be considered if other influenza H5N1 diagnostic testing methods are unsuccessful. Paired serum specimens from the same patient are required: one sample should be tested within the first week of illness, and a second sample should be tested 2-4 weeks later. Serologic testing for influenza H5N1 is generally unavailable. Specimens can be sent to CDC for this testing, but must go through the MDCH Bureau of Laboratories first or receive a tracking number from the lab.