



Missouri Department of Health and Senior Services

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**Laboratory Guidelines For Influenza Testing
With The Presence Of Avian Influenza A H5N1
Missouri Department of Health and Senior Services
State Public Health Laboratory
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Neither Influenza A (H5N1) nor (H7N9) have been identified among humans in the United States. However, health officials and health care providers must be vigilant in identifying suspect cases. Basic guidelines regarding procedures for routine influenza testing are as follows: Commercial antigen detection testing for influenza may be conducted under BSL-2 containment conditions if a Class II biological safety cabinet is used.

Clinical specimens from suspected novel influenza cases may be tested by RT-PCR using standard BSL-2 work practices in a Class II biological safety cabinet for initial processing of patient specimens. The Missouri State Public Health Laboratory is the recommended site for initial diagnosis and can perform influenza H5N1 and H7N9 RT-PCR testing.

If a specimen is confirmed positive for influenza A (H5N1) or (H7N9) by RT-PCR, additional testing should be performed only under BSL-3 conditions with enhancements.

BSL-3 with enhancements and Animal Biosafety Level 3 include: all BSL-3 practices, procedures, and facilities, plus the use of negative-pressure, HEPA-filtered respirators or positive air-purifying respirators, and clothing change and personal showering protocols. Additional practices and/or restrictions may be added as conditions of United States Department of Agriculture (USDA) - Animal and Plant Health Inspection Service (APHIS) permits. Registration of personnel and facilities with the Select Agent Program is required for work with Highly Pathogenic Avian Influenza (HPAI) viruses, which are classified as agricultural select agents.

Highly pathogenic avian influenza A (H5) and A (H7) viruses are classified as select agents. USDA regulations require that these viruses (as well as exotic low pathogenic avian influenza viruses) be handled under BSL-3 laboratory containment conditions, with enhancements (i.e., controlled-access double-door entry with change room and shower, use of respirators, decontamination of all wastes, and showering of all personnel). Laboratories that work with these viruses must be certified by the USDA.

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Laboratories should NOT perform virus isolation on respiratory specimens from patients who may be infected with an avian influenza virus unless stringent BSL-3 enhanced containment conditions can be met and diagnostic work can be kept separate from studies with other human influenza A viruses (i.e., H1 or H3). Therefore, respiratory virus cultures should not be performed in most clinical laboratories for patients suspected of having influenza A (H5N1) or (H7N9) infection.

If a non-BSL-3 with enhancements facility has received a clinical specimen which subsequent testing indicates is highly pathogenic avian influenza (HPAI) H5N1 or H7N9, then the facility must immediately take the following steps:

1. Both the facility and the reference laboratory (if applicable) must report that they have an avian influenza specimen/isolate to the Healthcare Associated Infections Coordinator at DHSS (573-441-6235 or 800-392-0272) AND to the local public health agency.
2. The facility and the reference laboratory (if applicable) must then contact CDC AND/OR the Animal and Plant Health Inspection Service (APHIS) to report the possession of material listed as a USDA Select Agent, and to receive instructions regarding the disposition of this material. The facility and the reference laboratory (if applicable) should then notify the Healthcare Associated Infections Coordinator at DHSS that a report has been made to CDC and/or APHIS.
3. The facility and the reference laboratory (if applicable) will be instructed by CDC and/or APHIS to either autoclave and discard ALL samples they have (isolate, swab, media, etc.), or send all such items to a laboratory that is registered to possess avian influenza. Destruction or transfer of these samples should also be reported to the same agencies listed above. Documentation of transfer or destruction must be maintained for three years.
4. Disinfect the work area(s) in which specimen handling and testing was conducted.
5. Monitor potentially exposed staff for symptoms. Public health or medical experts may recommend quarantine and prophylactic treatment.