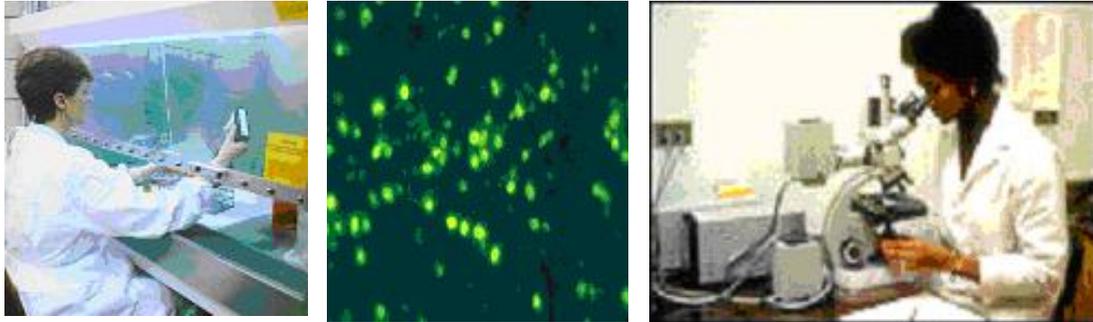


## Testing for Avian Influenza A (H5N1)



Diagnostic testing is recommended on suspect cases who meet the [CDPH Surveillance Criteria for Influenza A \(H5N1\) Infection](#) (PDF, New Window). Polymerase chain reaction (PCR) for influenza A and B, including subtyping, is available at certain local public health laboratories in California and the CDPH Viral & Rickettsial Disease Laboratory (VRDL). In all situations, a portion of specimens in suspect H5N1 cases should be forwarded to VRDL for concurrent testing as soon as possible.

Questions regarding submission of specimens on suspect cases of avian influenza A (H5N1), and where specimens should be submitted, should be directed to the local health department.

Rapid antigen testing or PCR for influenza can be performed under BSL-2 conditions. However, commercial rapid influenza antigen testing in the evaluation of suspected influenza A (H5N1) cases should be interpreted with caution. The sensitivity and specificity of rapid antigen testing can vary depending on the timing and type of specimen obtained, and a negative result does not exclude a diagnosis of avian influenza A (H5N1). In addition, a positive result does not distinguish between seasonal and avian influenza A viruses. Therefore, if a patient tests negative for influenza by rapid antigen testing but meets the [CDPH Surveillance Criteria for Influenza A \(H5N1\) Infection](#) (PDF, New Window), specimens should be sent for further characterization (including PCR and subtyping) to the local public health laboratories or VRDL.

Highly pathogenic avian influenza A (H5N1) is classified as a select agent and isolation for the virus can only be done under Biosafety Level (BSL) 3+ laboratory conditions. Laboratories working on these viruses must be certified by the U.S. Department of Agriculture. **Therefore, viral culture on specimens from patients meeting the above criteria should NOT be attempted by hospital or private laboratories, or by local public health laboratories.** Laboratories should refer to the [CDPH Laboratory Biosafety Guidelines for Handling and Processing Specimens or Isolates of Influenza A \(H5N1\) Strains](#) (PDF, New Window) for further information.

For submission of specimens, the CDPH [Guidelines for Collecting and Shipping Specimens for Influenza A \(H5N1\) Diagnostics](#) (PDF, New Window) should be used.

To improve diagnostic sensitivity, testing should be performed on multiple sample types. Some studies have demonstrated the need for multiple samples collected over several days for optimal H5 detection sensitivity. Given that most human cases have presented with lower respiratory tract infections, the collection of only an upper respiratory specimen, particularly single nasopharyngeal or nasal swabs, is NOT recommended.

#### **MINIMUM SPECIMEN REQUIREMENTS INCLUDE THE FOLLOWING:**

- 1) An oropharyngeal swab collected in 3 cc viral transport media (VTM); AND
- 2) A nasopharyngeal swab OR wash OR aspirate collected in 3 cc viral transport media (VTM)\*; AND
- 3) Any specimen(s) from the lower respiratory tract (e.g., sputum, bronchoalveolar lavage, tracheal aspirate or pleural fluid tap)\*.

\* Oropharyngeal swabs may have better yield than nasopharyngeal specimens. While both types of specimens should be collected, an oropharyngeal swab should be performed preferentially if only one sample can be taken.

\*\* In outpatient settings, it may be difficult to obtain samples from the lower respiratory tract in children. In these instances, two specimens from the upper respiratory tract (e.g. a nasopharyngeal wash and a throat swab) are acceptable.

After review with the local health department, any requests for diagnostic testing at VRDL must be accompanied by the [VRDL Specimen Submittal Form](#) (PDF, New Window). Local health departments may call David Cottam at the CDPH VRDL at (510) 307-8585 for further assistance.

#### **INFECTION CONTROL PRECAUTIONS DURING SPECIMEN COLLECTION:**

Infection control precautions during specimen collection 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 (for example, if the person has a beard). For detailed guidance, please see the [CDPH Infection Control Recommendations for Suspect Cases of Avian Influenza A \(H5N1\)](#) (PDF, New Window).

**ANY SUSPECT OR LABORATORY-CONFIRMED CASES SHOULD BE REPORTED TO THE LOCAL HEALTH DEPARTMENT AND CDPH IMMEDIATELY.**