

# Laboratory Investigations for suspected Avian Influenza A(H7) and A(H5) Human Infections in England

## Deciding whether testing is indicated and obtaining samples

1. For possible A(H7) and A(H5) infections, the local clinician/microbiologist should follow the respective [UKHSA investigation and management algorithms](#), which reflect advice and definitions issued by the World Health Organization.
  2. If the patient is considered to be a possible case, the local clinician/microbiologist should contact the Duty microbiologist/virologist at the [nearest regional UKHSA Laboratory](#). If the UKHSA Laboratory Duty microbiologist/virologist agrees that testing is indicated, the local clinician/microbiologist must also notify the [local UKHSA Health Protection Team \(HPT\)](#).
- Individuals at risk of infection with one subtype of avian influenza (AI) are potentially at risk of infection with other avian influenza viruses<sup>1</sup>; the tests required will be informed primarily by a known or suspected exposure (for example, confirmed AI incident in UK) and/or [geographical risk](#).

## Minimum diagnostic sample set

The following 2 samples should be taken.

1. An upper respiratory tract sample (combined nose and throat viral swabs, or nasopharyngeal aspirate).
2. If obtainable, a lower respiratory tract sample (sputum, or an endotracheal tube aspirate if intubated).

**Appropriate personal protective equipment and infection prevention and control measures** should be used when obtaining diagnostic samples (see [UKHSA guidance](#)). **All samples for influenza testing must be handled at containment level 3 in the local laboratory. Ensure samples prior to sample transfer to a UKHSA avian influenza testing laboratory are not collected into a medium containing an inactivating agent.**

## Sample transfer to the public health laboratory

1. Once the decision to test has been agreed, the UKHSA Laboratory Duty microbiologist/virologist will liaise with the referring hospital/laboratory to arrange the transportation of the sample(s) to the assigned UKHSA avian influenza testing laboratory.
2. The UKHSA Laboratory microbiologist/virologist will inform the National Reference Laboratory, Respiratory Virus Unit (RVU) UKHSA Colindale, that testing is going to be performed ([respiratory@ukhsa.gov.uk](mailto:respiratory@ukhsa.gov.uk) or telephone 020 8327 6017).
3. The HPT will complete the case report form (via Programmed Delivery Unit (PDU) sharepoint) and notify the Colindale Duty Doctor if hospitalised.
4. Samples should be sent by [Category B transport](#). The referring laboratory must provide contact details for telephone and hard copy reporting.

## Testing and results

Respiratory virus screen<sup>2</sup> and generic influenza A tests and seasonal (H1/H3) and either A(H5) or A(H7) or both A(H5) and A(H7) testing performed at UKHSA testing laboratory<sup>3</sup>

**Presumptive positive influenza A(H7) or A(H5) result**  
(virus detected by screening but confirmatory testing by RVU is pending)

**Reporting presumptive positive results**  
UKHSA Laboratory Duty microbiologist/virologist communicates result to local HPT, referring laboratory and RVU. All presumptive results should be telephoned and confirmed in writing.  
**Local HPT** informs Colindale Duty Doctor at any time.

UKHSA Laboratory sends residual material **URGENTLY** to RVU by [Category B Transport](#), for confirmatory testing.

**Avian influenza virus detection confirmed by RVU (confirmed case)<sup>5</sup>**

**Reporting confirmatory results**  
RVU informs the referring clinical laboratory, the UKHSA Laboratory microbiologist/virologist, the HPT, the UKHSA testing laboratory, and the avian flu epidemiology team, by telephone and in writing.

Influenza A Negative, or  
Influenza A Positive Subtypes as Seasonal H3N2 (H1N1)pdm09, or  
Influenza B Positive<sup>4</sup>

**Reporting negative results**  
UKHSA Laboratory Duty microbiologist/virologist informs the local HPT, the referring laboratory, and RVU. All results should be telephoned and confirmed in writing.  
**Local HPT** informs avian flu team by email (see PDU sharepoint)

Influenza A detected but seasonal H1/H3 and avian H5 and H7 subtypes not detected (influenza A unsubtypeable) in a person with exposure to confirmed AI and/or [geographical risk](#).  
Contact Colindale Duty Doctor

### Notes

<sup>1</sup> Specific subtype testing for avian influenza viruses not available routinely and should be discussed with the local UKHSA Laboratory microbiologist/virologist in the first instance.

<sup>2</sup> Non-influenza respiratory virus screens vary between different UKHSA Laboratories. If a referring laboratory chooses to perform its own respiratory virus panel (in addition to requesting avian influenza testing), a local risk assessment should be performed and appropriate health and safety measures followed.

<sup>3</sup> The UKHSA testing laboratory should divide each sample into 2 aliquots, with one untreated aliquot reserved at containment level 3; lysis buffer should be added to other aliquot(s). Following lysis, samples may be handled at containment level 2 for further testing.

<sup>4</sup> If appropriate samples were obtained and an alternative diagnosis is possible, then A(H5) or A(H7) may be considered excluded. If clinical suspicion remains, the local clinician/microbiologist should discuss repeat sampling and testing with the local UKHSA Laboratory Duty microbiologist/virologist.

<sup>5</sup> In the event of an indeterminate result, RVU will contact the local UKHSA Laboratory Duty microbiologist/virologist to discuss further actions.