Fact Sheet: Highly Pathogenic Avian Influenza

Updated April 2024

What is Highly Pathogenic Avian Influenza Virus Disease?

Highly-Pathogenic Avian Influenza (HPAI) is a respiratory illness caused by avian-origin influenza A virus subtypes, such as H5, H7, and H9. Influenza A viruses infect the respiratory and gastrointestinal tract of birds causing them to shed virus in their saliva, mucous, and feces. The majority of human cases have arisen from direct or indirect contact with infected live or dead poultry and other affected animals. People with close or prolonged contact with infected birds or other infected animals or contaminated environments are at greater risk of infection. Globally, there have been sporadic human cases of HPAI. Because of the wide global prevalence of HPAI A (H5N1) viruses in wild birds and poultry outbreaks and other affected animals, continued sporadic human infections are anticipated. There have also been globally documented cases of HPAI among numerous mammal species. People with work or recreational exposures to H5N1 virus-infected animals are at increased risk of infection. The CDC currently considers HPAI A (H5N1) infection in humans' low risk to the health of the general public in the United States, however **HPAI should be considered in persons showing signs or symptoms of respiratory illness who have relevant exposure history.**

Disease Summary

Transmission:

- Exposure to saliva, mucous, or feces from infected birds (either direct contact with infected birds or contact with contaminated environments) and touching eyes, nose, or mouth, or inhaling airborne particles.
- Through an intermediate host, such as another animal.

Incubation Period:

- Usually 2-5 days, but can be up to 17 days.

Symptoms:

- Mild illness: (e.g., cough, sore throat, eye redness or eye discharge such as conjunctivitis, fever or feeling feverish, rhinorrhea, fatigue, myalgia, arthralgia, and headache)
- Moderate to severe illness: (e.g., shortness of breath or difficulty breathing, altered mental status, and seizures)
- Complications: (e.g., pneumonia, respiratory failure, acute respiratory distress syndrome, multi-organ failure (respiratory and kidney failure), sepsis, and meningoencephalitis)
- Illness in humans with avian influenza A(H5N1) virus have ranged from mild to severe.

Note: Other infection can mimic avian influenza, such as COVID-19 and other types of influenza.

When to Suspect a Patient has HPAI

Epidemiologic Criteria: Has **one or more** of the following exposures 10 days prior to symptom onset:

- Exposure to HPAI A(H5N1) virus infected birds or other animals defined as follows:
  - Close exposure (within six feet) to birds with confirmed avian influenza A virus infection by A (H5N1) virus. Bird exposures can include but are not limited to handling, slaughtering, de-feathering, butchering, culling, or preparing birds or other animals for consumption, or consuming contaminated uncooked or undercooked food or related contaminated uncooked food products, including unpasteurized (raw) milk or cheese from dairy farms with suspected/confirmed avian influenza A(H5N1), **OR**
  - Direct contact with surfaces contaminated with feces, unpasteurized (raw) milk or other unpasteurized dairy products, or bird or animal parts (e.g., carcasses, internal organs) from infected birds or other animals, **OR**
  - Visiting a live poultry market with confirmed bird infections or associated with a case of human infection with HPAI A (H5N1).
- Exposure to an infected person - Close (within 6 ft) unprotected (no respiratory and eye protection) exposure to a person who is a confirmed, probable, or symptomatic suspected case of human infection with HPAI A(H5N1) virus (e.g., in a household or healthcare facility).
- Laboratory exposure (unprotected exposure to HPAI A(H5N1) virus in a laboratory).

AND
Clinical Criteria (see symptoms above)

**Note: Determining if testing for asymptomatic persons is warranted, as part of public health investigations, is made in consultation with NYC DOHMH.*

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Key Steps for Frontline Clinical Staff

Identify
- Assess the patient for signs and symptoms, travel history, and epidemiological criteria.
- For assistance, contact facility Infection Prevention and Control or on-call hospital epidemiologist

Isolate
- Give the patient a mask to the patient and initiate prompt isolation.

Inform
- Notify dept/facility leadership, Infection Prevention & Control, on-call hospital epidemiologist.
- Call NYC DOHMH Provider Access Line to report/ascertain risk (866-692-3641)

Initiate
- If determined by NYC DOHMH to be a "Person Under Investigation," call Central Office Special Pathogens Program / Emergency Management (646-864-5442) to report case.
- Initiate empiric antiviral treatment as soon as possible. Do not delay treatment while awaiting laboratory results.

Infection Prevention and Control for HPAI

Hand Hygiene

- Perform hand hygiene before and after all patient contact, contact with potentially infectious material, and before putting on and upon removal of PPE, including gloves.
- Use soap and water for at least 20 seconds or use alcohol-based hand rubs. If hands are visibly soiled, use soap and water.

Patient Placement

- Place patient in a single patient **Airborne Infection Isolation Room (AIIR)**. If an AIIR is not available, isolate patient in a private examination room. Keep door closed, minimize entry and exit, and avoid entry without appropriate PPE.
- Keep a log of all persons who care for or enter the rooms or care area of these patients.
- Limit movement of the patient outside of the room. When outside of the room, **patient should wear a facemask.**

Transmission-Based Precautions & Personal Protective Equipment

- Adhere to **Airborne + Contact + Eye Protection Precautions in addition to standard precautions.** Use an N95 respirator, gloves, gown, and face shield/goggles.
- Follow the **SP Level I PPE Donning and Doffing Checklist.**

Environmental Infection Control

- Avian influenza virus is a **Category B infectious substance**: not in a form generally capable of causing permanent disability or life-threatening/fatal disease in healthy humans if exposure occurs.
- Avian influenza clinical waste can be managed as **regulated medical waste**.
- Clean and disinfect the patient's care area using an EPA registered disinfectant for appropriate contact times that has a label claim for influenza. Management of laundry, food service utensils, and medical waste should also be performed in accordance with routine procedures.
- Further information regarding waste and transport can be found here: https://www.cdc.gov/flu/avianflu/novel-flu-infectioncontrol.htm

Diagnostic Testing

- Cases are confirmed by laboratory subtyping which will occur at a public health laboratory.
- **Consultation and approval from NYC DOHMH is required if specimen collection for subtyping is warranted.**
- CDC Testing Guidance here.

Treatment

- Outpatients meeting exposure criteria who develop signs and symptoms compatible with non-avian influenza should be referred for prompt medical evaluation and empiric initiation of antiviral treatment with a neuraminidase inhibitor, such as oseltamivir or zanamivir, or the cap-dependent endonuclease inhibitor, baloxavir, as soon as possible. Treatment should be initiated even if more than 48 hours has elapsed (clinical benefit is greatest when antiviral treatment is administered within 48 hours of illness onset) since illness onset and regardless of illness severity (outpatients or hospitalized patients).
- Hospitalized patients who are confirmed, probable, or suspected cases of human infection with HPAI A (H5N1) virus, regardless of time since illness onset, should initiate antiviral treatment with oral or enterically administered oseltamivir as soon as possible. Antiviral treatment should not be delayed while waiting for laboratory testing results.
- **Antiviral treatment should not be delayed while waiting for laboratory test results.**

- The recommendation for administration of chemoprophylaxis in asymptomatic individuals that have potentially been exposed to avian influenza A(H5N1) depends on the nature of the exposure. Chemoprophylaxis for symptomatic individuals that have had contact with a confirmed or probable case is recommended.

For detailed guidance on dosing and treatment duration, please see https://www.cdc.gov/flu/avianflu/novel-av-treatment-guidance.htm

References:

- Avian influenza strain breakdown: https://www.cdc.gov/flu/avianflu/influenza-a-virus-subtypes.htm
- CDC Case Definition: https://www.cdc.gov/flu/avianflu/case-definitions.html
- CDC Human Infection with Avian Influenza A Virus: Information for Health Professionals and Laboratorians: https://www.cdc.gov/flu/avianflu/healthprofessionals.htm
- CDC HAN Highly Pathogenic Avian Influenza A(H5N1) Virus: Recommendations for Human Health Investigations and Response: https://emergency.cdc.gov/han/2022/han00464.asp