

# Avian Influenza Fact Sheet for EMS, Public Safety, and First Responders

## What is avian influenza and what causes it?

Avian influenza, or “bird flu,” is a contagious disease of animals caused by influenza viruses that normally infect only birds and, less commonly, pigs. Avian influenza viruses are highly species-specific, but on rare occasions have crossed the species barrier to infect humans as they have in the current avian influenza outbreak. The current outbreak strain (H5N1) poses two main risks for human health. The first is the risk of direct infection when the virus passes from poultry to humans, resulting in very severe disease. A second risk, of even greater concern, is that the virus will change into a form that is highly infectious for humans and spreads easily from human-to-human. Such a change could mark the start of a global outbreak (a pandemic).

## How is avian influenza spread?

Direct contact with infected poultry, or surfaces and objects contaminated by their feces, is presently considered the main route of human infection. To date, most human cases have occurred in areas where many households keep small poultry flocks, which often roam freely, sometimes entering homes or sharing outdoor areas where children play. Because infected birds shed large quantities of virus in their feces, there are multiple opportunities for human exposure to infected droppings or to environments contaminated by the virus in these settings.

## What are the signs and symptoms of avian influenza in humans?

Symptoms of avian influenza in humans have ranged from typical human influenza-like symptoms (fever, cough, sore throat, and muscle aches) to eye infections, pneumonia, severe respiratory diseases (such as acute respiratory distress syndrome), and other severe and life-threatening complications. Of the few avian influenza viruses that have crossed the species barrier to infect humans, H5N1 has caused the largest number of cases of severe disease and death in humans.

## What is the difference between avian influenza and pandemic influenza?

Avian influenza refers to a large group of different influenza viruses that primarily infect birds. A pandemic occurs when an avian influenza strain adapts to become easily transmissible between humans, e.g., by coughing and sneezing. Once this adaptation occurs, it will no longer be a bird virus - it will be a human influenza virus.

However, because this new strain has not previously circulated among humans, the human immune system will have no pre-existing immunity. This makes it likely that people who contract pandemic influenza will experience more serious disease than that caused by normal influenza. Influenza pandemics are rare, but recurring events. Three pandemics have occurred in the previous century: “Spanish influenza” in 1918, “Asian influenza” in 1957, and “Hong Kong influenza” in 1968.

## How would I know if I am caring for a possible avian influenza patient?

In the absence of efficient human-to-human transmission of avian influenza, patients with respiratory symptoms should not be considered suspect avian influenza cases unless they have severe pneumonia (or acute respiratory distress syndrome) of unknown cause that requires hospitalization **AND** an exposure (see case definition) that raises the suspicion of avian influenza. If a patient is not suspected to have avian influenza or another disease that may be spread via the airborne route (e.g. TB), but has symptoms of respiratory infection, Droplet Precautions (surgical mask) (in addition to Standard Precautions) should be used when caring for the patient.

## What is the current case definition for a suspect case of avian influenza?

Fever ( $\geq 100.4^{\circ}\text{F}/38^{\circ}\text{C}$ ) **OR** history of fever

**AND** respiratory symptoms (cough or shortness of breath) requiring hospitalization **OR** death from unexplained respiratory illness

**AND** history of travel in the **7 days prior to onset of symptoms** to an area affected by avian influenza A H5N1 (see

[http://www.who.int/csr/disease/avian\\_influenza/updates/en/index.html](http://www.who.int/csr/disease/avian_influenza/updates/en/index.html))

**AND** close contact (within 3 feet) with live or dead domestic fowl, wild birds, or swine in any setting, including bird markets **OR** one of the following:

- Close contact (touching/speaking distance) with other persons from H5N1 affected areas with severe respiratory illness or unexplained death.
- Part of a healthcare worker cluster of severe unexplained respiratory illness.
- Laboratory worker with potential exposure to influenza A H5N1.



# Avian Influenza Fact Sheet for EMS and Public Safety Personnel

## If the patient is a suspected case, how can I protect myself from becoming infected with avian influenza?

In addition to Standard and Droplet Precautions, use Airborne and Contact Precautions:

- Place a surgical mask on the suspected avian influenza patient to contain droplets expelled during coughing. If this is not possible, have the patient cover mouth/nose with tissue when coughing or use another practical method to contain cough.
- All responders (including transport vehicle drivers) must wear a fit-tested N95 or higher respirator or powered air-purifying respirator (PAPR) during close contact with and transport of a suspected avian influenza patient. If respirators are not available, tightly fitting surgical masks may be worn, but will offer significantly less protection than a respirator.
- Adequate ventilation is also important. If you must transport a patient with known or suspected avian influenza, keep the windows of your vehicle open (if feasible) and set the heating and air-conditioning systems on a nonrecirculating cycle.
- Wear long-sleeved fluid-resistant gown and disposable gloves.
- Use eye protection (e.g., face shield or sealed goggles).
- Use excellent hand hygiene; clean hands with antimicrobial soap and water or an alcohol-based handrub (if hands are not visibly soiled). Hands must be cleaned immediately after glove removal.

## How often does an N95 respirator need to be fit-checked?

The N95 respirator should be "fit-checked" before each use. To fit-check a respirator, place both hands over the respirator and exhale sharply. If an air leak is detected, re-adjust the respirator and recheck.

## Can N95 respirators be reused?

Although N95 respirators can be reused in the care of TB patients, they should not be reused after being worn during the care of an avian influenza patient since, unlike TB, influenza can also be transmitted by contact. N95 respirators should be discarded in biohazard bags after patient care is completed (e.g., between patients) or when soiled or damaged. If a pandemic occurs and N95 respirators are in short supply, MDH will provide guidance on possible reuse.

## Would performing aerosol-generating procedures on a suspected avian influenza patient put me at greater risk of contracting avian influenza?

Yes, these procedures (e.g., suctioning, intubation, nebulization, BiPAP/CPAP) may increase the risk of avian influenza transmission. Therefore, aerosol-generating procedures should be avoided during transport, unless medically essential.

## Can avian influenza be spread by contaminated clothing?

Although it is unknown if avian influenza is likely to be spread in this manner, it is prudent to wear a gown to protect clothing from possible contamination.

## If I have contact with a suspected avian influenza patient, can I put my family at risk?

The greatest risk to family members would come from close contact with you if you became infected with avian influenza.

## What happens if laboratory tests confirm that the patient I was caring for has avian influenza?

You will be notified to watch for fever  $\geq 100.4^{\circ}\text{F}/38^{\circ}\text{C}$  or respiratory symptoms such as cough or shortness of breath for 14 days after your exposure and to notify the Minnesota Department of Health and your healthcare provider immediately if symptoms develop. You may also be instructed by MDH to separate yourself from others (quarantine) during this time.

## How should the ambulance and equipment be decontaminated after transporting a suspected avian influenza patient?

- Clean and disinfect the vehicle as usual. All surfaces that may have come in contact with the patient or materials contaminated during patient care (e.g., stretcher, rails, control panels, floors, walls, work surfaces) should be thoroughly cleaned and disinfected using an EPA-registered hospital disinfectant.
- Cleaning personnel must wear a disposable gown and gloves.
- Clean and disinfect reusable patient-care equipment according to manufacturer's instructions.

## Where can I get additional information about avian influenza?

Contact the Minnesota Department of Health (MDH) at 651-201-5414 or 1-877-676-5414 or access one of the following avian influenza websites:

Minnesota Department of Health at [www.health.state.mn.us/divs/idepc/diseases/flu/avian/](http://www.health.state.mn.us/divs/idepc/diseases/flu/avian/)

Centers for Disease Control and Prevention at [www.cdc.gov/flu/avian/](http://www.cdc.gov/flu/avian/)

World Health Organization at

[www.who.int/csr/disease/avian\\_influenza/en/](http://www.who.int/csr/disease/avian_influenza/en/)