

Avian Influenza Viruses: Are You Prepared?

Prepared by the Convertors® Products and Services Group of Cardinal Health Inc.

Concerns about Avian Influenza Viruses (Bird Flu), a very contagious virus among the bird population, are fueling many questions globally about the preparedness of healthcare facilities in the event of a potential “pandemic.”

The U.S. Centers for Disease Control and Prevention (CDC) has issued important information about Avian Influenza, including Interim Recommendations for Infection Control in Healthcare Facilities Caring for Patients with Known or Suspected Avian Influenza. This summary of certain CDC information has been prepared by Cardinal Health and is intended to be used in conjunction with the CDC information found at <http://www.cdc.gov/flu/avian/outbreaks/asia.htm>.

What is Avian Influenza (bird flu)?

Bird flu is an infection caused by avian (bird) influenza (flu) viruses. These flu viruses occur naturally among birds. Wild birds worldwide carry the viruses in their intestines, but usually do not get sick from them. However, bird flu is very contagious among birds and can make some domesticated birds, including chickens, ducks and turkeys, very sick and kill them.

What is an Avian Influenza A (H5N1) virus?

Influenza A (H5N1) virus—also called “H5N1 virus”—is an influenza A virus subtype that occurs mainly in birds. It was first isolated from birds (terns) in South Africa in 1961. Like all bird flu viruses, H5N1 virus circulates among birds worldwide, is very contagious among birds, and can be deadly.

What is the risk to humans from bird flu?

The risk from bird flu is generally low to most people because the viruses occur mainly among birds and do not usually infect humans. However, during an outbreak of bird flu among poultry (domesticated chicken, ducks, turkeys), there is a possible risk to people who have contact with infected birds or surfaces that have been contaminated with excretions from infected birds. For more information about avian influenza and food safety issues, visit the World Health Organization Website at www.who.int/foodsafety/micro/avian/en.

What is the risk to humans from the H5N1 virus in Asia?

The H5N1 virus does not usually infect humans. In 1997, however, the first case of spread from a bird to a human was seen during an outbreak of bird flu in poultry in Hong Kong, Special Administrative Region. The virus caused severe respiratory illness in 18 people, six of whom died. Since that time, there have been other cases of H5N1 infection among humans. Recent human cases of H5N1 infection that have occurred in Cambodia, Thailand, and

Vietnam have coincided with large H5N1 outbreaks in poultry. The World Health Organization (WHO) also has reported human cases in Indonesia. Most of these cases have occurred from contact with infected poultry or contaminated surfaces; however, it is thought that a few cases of human-to-human spread of H5N1 have occurred.

So far, spread of H5N1 virus from person to person has been rare and has not continued beyond one person. However, because all influenza viruses have the ability to change, scientists are concerned that the H5N1 virus one day could be able to infect humans and spread easily from one person to another. Because these viruses do not commonly infect humans, there is little or no immune protection against them in the human population. If the H5N1 virus were able to infect people and spread easily from person to person, an influenza pandemic could begin. No one can predict when a pandemic might occur. However, experts from around the world are watching the H5N1 situation in Asia very closely and are preparing for the possibility that the virus may begin to spread more easily and widely from person to person.

What is the risk to people in the United States from the bird flu outbreak in Asia?

The current risk to Americans from the bird flu outbreak in Asia is low. The strain of this virus found in Asia has not been found in the United States. There have been no human cases of this virus in the United States. It is possible that travelers returning from affected countries in Asia could be infected. Since February 2004, medical and public health personnel have been watching closely to find any such cases.

CDC Interim Recommendations for Infection Control in Healthcare Facilities Caring for Patients with Known or Suspected Avian Influenza

The following interim recommendations are based on what are deemed optimal precautions for protecting individuals involved in the care of patients with highly pathogenic avian influenza from illness and for reducing the risk of viral re-assortment (i.e., mixing of genes from human and avian viruses). The ability of low pathogenic avian influenza viruses to cause infection and serious disease is less well established, but appears to be lower than that of highly pathogenic viruses based on available information. Nonetheless, it is considered prudent to take all possible precautions to the extent feasible when caring for patients with known or possible avian influenza.

Rationale for Enhanced Precautions

Human influenza is thought to transmit primarily via large respiratory droplets. Standard Precautions plus Droplet Precautions are recommended for the care of patients infected with human

influenza. However, given the uncertainty about the exact modes by which avian influenza may first transmit between humans additional precautions for healthcare workers involved in the care of patients with documented or suspected avian influenza may be prudent. The rationale for the use of additional precautions for avian influenza, as compared with human influenza include the following:

- ▶ The risk of serious disease and increased mortality from highly pathogenic avian influenza may be significantly higher than from infection by human influenza viruses.
- ▶ Each human infection represents an important opportunity for avian influenza to further adapt to humans and gain the ability to transmit more easily among people.
- ▶ Although rare, human-to-human transmission of avian influenza may be associated with the possible emergence of a pandemic strain.

CDC Recommendations for Avian Influenza

All patients who present to a healthcare setting with fever and respiratory symptoms should be managed according to recommendations for Respiratory Hygiene and Cough Etiquette and questioned regarding their recent travel history.

Patients with a history of travel within 10 days to a country with avian influenza activity and are hospitalized with a severe febrile respiratory illness, or are otherwise under evaluation for avian influenza, should be managed using isolation precautions identical to those recommended for patients with known Severe Acute Respiratory Syndrome (SARS). These include:

Standard Precautions

- ▶ Pay careful attention to hand hygiene before and after all patient contact or contact with items potentially contaminated with respiratory secretions.

Contact Precautions

- ▶ Use gloves and gown for all patient contact.
- ▶ Use dedicated equipment such as stethoscopes, disposable blood pressure cuffs, disposable thermometers, etc.

Eye protection (i.e., goggles or face shields)

- ▶ Wear when within 3 feet of the patient.

Airborne Precautions

- ▶ Place the patient in an airborne isolation room (AIR). Such rooms should have monitored negative air pressure in relation to corridor, with 6 to 12 air changes per hour (ACH), and exhaust air directly outside or have recirculated air filtered by a high efficiency particulate air (HEPA) filter. If an AIR is unavailable, contact the healthcare facility engineer to assist or use portable HEPA filters to augment the number of ACH.
- ▶ Use a fit-tested respirator, at least as protective as a National Institute of Occupational Safety and Health (NIOSH)-approved N-95 filtering facepiece (i.e., disposable) respirator,¹ when entering the room.

For additional information regarding these and other healthcare isolation precautions, see the Guidelines for Isolation Precautions in Hospitals. These precautions should be continued for 14 days

after onset of symptoms or until either an alternative diagnosis is established or diagnostic test results indicate that the patient is not infected with influenza A virus. Patients managed as outpatients or hospitalized patients discharged before 14 days with suspected avian influenza should be isolated in the home setting on the basis of principles outlined for the home isolation of SARS patients.

Vaccination of Healthcare Workers Against Human Influenza

Healthcare workers involved in the care of patients with documented or suspected avian influenza should be vaccinated with the most recent seasonal human influenza vaccine. In addition to providing protection against the predominant circulating influenza strain, this measure is intended to reduce the likelihood of a healthcare worker's being co-infected with human and avian strains, where genetic rearrangement could take place, leading to the emergence of potential pandemic strain.

Surveillance and Monitoring of Healthcare Workers

- ▶ Instruct healthcare workers to be vigilant for the development of fever, respiratory symptoms, and/or conjunctivitis (i.e., eye infections) for 1 week after last exposure to avian influenza-infected patients.
- ▶ Healthcare workers who become ill should seek medical care and, prior to arrival, notify their healthcare provider that they may have been exposed to avian influenza. In addition, employees should notify occupational health and infection control personnel at their facility.
- ▶ With the exception of visiting a healthcare provider, healthcare workers who become ill should be advised to stay home until 24 hours after resolution of fever, unless an alternative diagnosis is established or diagnostic tests are negative for influenza A virus.
- ▶ While at home, ill persons should practice good Respiratory Hygiene and Cough Etiquette to lower the risk of transmission of virus to others. †

References

1. Respirators should be used in the context of a complete respiratory protection program as required by the Occupational Safety and Health Administration (OSHA). This includes training, fit-testing, and fit-checking to ensure appropriate respirator selection and use. To be effective, respirators must provide a proper sealing surface on the wearer's face.

Visit the Cardinal Health Website at www.cardinal.com/re for more information about Cardinal Health products and solutions or request free product samples designed to meet your respiratory protection needs.

For the latest U.S. government information visit <http://www.whitehouse.gov/news/releases/2005/11/20051101.html>

To help equip Americans with accurate information on how to protect themselves and their families in the event of a pandemic, the U.S. government launched www.PandemicFlu.gov. This will help Americans stay informed about our government's preparations and learn what they can do to decrease their risk.

