

Bird Flu

Avian Influenza in Birds

What is bird flu?

Avian influenza or “Bird Flu” is a group of viral infections that occur naturally among birds. Some wild birds like waterfowl can carry influenza viruses in their intestines, but usually do not get sick from them. Infected birds shed flu virus in saliva, nasal secretions, and feces. Other birds may be easily infected when they come into direct contact with secretions from infected birds or when they are exposed to surfaces or materials contaminated with the virus such as dirt, cages, water, or food. Some experts believe migrating birds are responsible for spreading bird flu virus among bird populations from country to country.

What are the signs of disease?

Bird flu infection in poultry, such as chickens, domestic ducks, and turkeys, causes two main forms of disease. In the mild form, disease may go unnoticed since the virus is associated with only minor signs such as ruffled feathers and a drop in egg laying. The severe, or highly pathogenic, form of disease spreads rapidly through flocks affecting multiple internal organs and causing death rates that reach 90-100% within 48 hours.

What is H5N1?

Influenza A (H5N1) virus or the “H5N1 virus” is a type of flu that occurs mainly in birds. H5N1 virus is highly contagious among birds, and can be deadly to them. During H5N1 virus outbreaks in 2003-2004 in Asia, more than 100 million poultry either died from the disease or were killed in an effort to control the outbreaks.

Human infection with Avian Influenza

Overall, H5N1 virus very rarely causes disease in humans and the risk to most people is relatively low. However of the few bird flu viruses that have crossed the species barrier to infect humans, H5N1 has caused the largest number of cases of severe disease and death. Since 2003, more than a dozen countries in Asia, Africa, the Pacific, Europe and the Near East have reported more than 400 human cases of H5N1 infection. Most cases

have resulted from direct or close contact with sick or dead, infected poultry or surfaces contaminated by the virus.

What are the signs of bird flu in humans?

Symptoms of bird flu in humans range from typical flu-like signs such as fever, cough, sore throat, and muscle aches, to nausea, diarrhea, vomiting, neurologic signs, eye infections, pneumonia and other severe respiratory diseases. More than 50% of the human H5N1 cases in Asia, parts of Europe, the Near East and Africa have died. Most of these cases have occurred in previously healthy children and young adults.

Bird flu cannot be diagnosed by symptoms alone, and a laboratory test is required. Doctors usually collect a swab from the nose or throat during the first few days of illness.

Why is H5N1 virus cause for international concern?

H5N1 virus does not easily infect humans, and if a person is infected, it is very difficult for the virus to spread to another human being. To date, only a small amount of human-to-human spread of H5N1 has occurred. Nevertheless, because all flu viruses have the ability to mutate, scientists are concerned that H5N1 virus could one day be able to infect humans and spread easily from person to person. Since humans have little or no immunity against H5N1 virus, bird flu infection could potentially spread worldwide. A “pandemic” is a global outbreak of disease. Bird flu infection pandemics have occurred in the past, and certainly may occur again. Therefore experts from around the world watch the H5N1 situation in Asia and Europe very closely.

What about bird flu in the United States?

In 2004, the United States experienced the first highly pathogenic bird flu outbreak among poultry in 20 years. This outbreak involved influenza A H5N2 virus in a flock of 7000 chickens in Texas. There was no report of transmission to humans.

H5N1 viruses have never been found in wild birds, domestic poultry, or people in the United States. In 2004, the American government issued a ban on importation of poultry from countries affected with bird flu, including the H5N1 strain. This ban is still in place.

If H5N1 virus were to appear among humans or birds in the United States, public health officials would be expected to widely distribute antiviral medications that might help decrease the severity of illness. Also, the U.S. Food and Drug Administration (FDA) announced its approval of the first vaccine to prevent human infection with one strain of the H5N1 virus in 2007. This vaccine has been purchased by the federal government for the U.S. Strategic National Stockpile and will be distributed by public health officials if needed.

What are the recommendations of the Centers for Disease Control?

1. Eligible people should be vaccinated each year against seasonal flu

The standard flu vaccine does not provide protection against bird flu, but if someone with seasonal flu became infected with bird flu this could cause the virus to mutate into a stronger, more dangerous flu strain.

2. Practice the same food safety practices that protect against any poultry infection:

- Wash hands with soap and warm water for at least 20 seconds before and after handling raw poultry and eggs.
- Clean cutting boards and other utensils with soap and hot water to keep raw poultry from contaminating other foods.
- Use a food thermometer to cook poultry at a minimum of 165° F
- Cook eggs until whites and yolks are firm.

3. When traveling to countries with known bird flu, make sure you are informed. See the CDC's Travelers' Health page for current travel information and health advisories.

The CDC also advises travelers to:

- Avoid visits to poultry farms or contact with live animals.
- Avoid ice cream or other foods that may have been produced with raw eggs.
- Do not touch any surfaces that appear to be contaminated with feces from poultry or other animals.
- Wash hands with soap and water or use alcohol-based hand sanitizers.

References and Further Reading

Centers for Disease Control and Prevention. Avian Influenza (Bird Flu): What You Should Know. <http://www.cdc.gov/flu/avian/>. Accessed June 12, 2008.

World Health Organization. Avian influenza. http://www.who.int/csr/disease/avian_influenza/en/. Accessed June 12, 2008.

United States Department of Agriculture Animal and Plant Health Inspection Service. Avian Influenza (AI). http://www.aphis.usda.gov/animal_health/birdbiosecurity/AI/. Accessed June 30, 2008.