

## Are there any human vaccines for the bird flu virus?

Human vaccines are being developed, and their capacity to prevent a pandemic is yet to be established: it is uncertain that they will protect against the H5N1 virus if it mutates and adapts to humans. Researchers are carefully monitoring the situation to ensure that if the virus changes into a strain that is more infective for humans, they can then start to develop a vaccine specifically for that strain.

## Is it safe to eat chicken meat and other poultry products?

Sick poultry should never be handled, slaughtered, sold, or eaten. However, it is generally safe to eat chicken and other poultry products that have been thoroughly-cooked by frying, boiling or grilling. Do not eat poultry meat that is still pink and half-cooked. Do not eat half-cooked or half-boiled eggs.

## What we know – and what we don't know – about bird flu and flu pandemics

A pandemic is an outbreak, or epidemic, that spreads all over the world. In recent history, flu pandemics have tended to happen every 10 to 40 years. The last century saw three flu pandemics: the Spanish Flu pandemic of 1918 that is estimated to have killed 50 million people worldwide; and pandemics in 1957 and 1968, each claiming between one and four million individuals worldwide.

Until the next flu pandemic begins, there is no way of knowing how deadly it will be, or even which virus will spark it.



In August 2007, an Indonesian woman died of bird flu in Bali, the first human death from the virus on this resort island which is very popular with foreign tourists.

As the saying goes, it is better to be safe than sorry. In our region, everyone should act now by taking precautions to protect yourself and your family. To start, we should increase communication and awareness around "bird flu" to be prepared should a flu pandemic arise.

# WHAT IS BIRD FLU (AVIAN INFLUENZA)?



"Bird Flu", also called "Avian Influenza", is a contagious animal disease caused by a range of viruses that normally infect only birds, and sometimes other species such as pigs. The viruses spread easily from bird to bird through infected droplets, contaminated water, food and soil. Although it is mainly a disease of birds, such as chickens, geese and ducks, people can occasionally become infected with "bird flu" through close contact with infected birds.

## What are the symptoms of bird flu in poultry?

In domestic poultry, infection with bird flu virus causes two main forms of disease, distinguished by low and high extremes of virulence.

The so-called "low pathogenic" form commonly causes only mild symptoms, for example, ruffled feathers, or a drop in egg production, and may easily go undetected.

The highly pathogenic form is far more dramatic, spreading very rapidly through poultry flocks. The following symptoms may occur: swelling of the face; nasal/oral/ocular fluid discharges; drooped head; bleeding/bruising under the skin of the

comb, wattles and/or legs. Clusters of deaths without other signs are the most likely and important indication of Avian Influenza. It can produce nearly 100% mortality in infected poultry often within 48 hours.

Domestic ducks may be acting as a silent reservoir for the bird flu virus, carrying the virus without showing any sign of illness. In some areas, free-ranging ducks and chickens often mingle and share the same water supplies. They may thus have acquired an important role in the transmission of the virus to other poultry and, possibly, to humans as well.

Any death in poultry with suspicious symptoms is significant and should be reported to and investigated by competent authorities.

## What are the implications of bird flu in humans?

Of the bird flu viruses that can infect humans, the influenza virus strain A (H5N1) has caused the largest number of cases of severe disease and death in humans. If infected, a person could die from acute viral pneumonia and severe multi-organ failure. According to the World Health Organization, as of 28 February 2008, 369 human cases of bird flu, including 234 deaths, have been reported globally.



In January 2006, two Turkish teenagers became the first to die of bird flu outside East Asia after eating infected chicken and playing with the (uncooked) remains. Mehmet Ali Kocygit, 14, and his sister Fatima, 15, died within a few days of each other. Eight other members of the same family became seriously ill with symptoms of fever, coughing and bleeding from the mouth. Turkey had reported a massive outbreak of bird flu a few weeks earlier. The Kocygit family discovered several of their birds had died and cooked and ate the remaining chicken. The results were obviously fatal.



## What are the differences between bird flu in humans and ordinary human flu?

It is important not to confuse human cases of bird flu with human flu. The main difference is that bird flu is a viral infection that affects birds. However, we should recognize that people can contract bird flu if they have close contact with infected poultry, poultry products, or contaminated equipment and materials.

Ordinary human flu, which should not be confused with the common cold, causes a sudden onset of fever over 38 degrees Celsius that lasts several days, often accompanied by one or more of the following: aching muscles, headache, sore throat, dry cough, runny nose, and loss of appetite. Most people will experience extreme tiredness and a sense of weakness and a need to stay in bed.

Ordinary human flu can be transmitted between humans by direct contact or by infected droplets released into the air through sneezing and coughing. It can also be transmitted by touching things that are contaminated by respiratory secretions of a sick person and then touching your mouth, eyes or nose.

In temperate regions of the world, flu occurs in annual epidemics during the winter months,

which is why it is often called seasonal flu. In tropical climates there is less of a seasonal pattern; it can occur all year round.

Ordinary flu can be dangerous, especially in the elderly and in persons with chronic health problems. It is estimated that ordinary flu causes about 1 million deaths worldwide per year.

The early signs of bird flu in humans are often similar to seasonal human flu: starting with cough, sore throat, high fever, headache and muscle ache. The disease can progress into pneumonia with difficulty in breathing and possible respiratory failure.

Unlike most cases of ordinary flu, H5N1 bird flu in humans can affect the entire body, causing multi-organ failure and possibly death. Of human A(H5N1) bird flu cases reported to WHO, over 50% have been fatal.

Bird flu is not commonly caught by people; it requires very close contact between infected birds and humans. In humans, person-to-person spread either has not occurred or is extremely rare.

## Why are the current outbreaks in poultry significant?

The current outbreaks of bird flu among poultry, which began in South-East Asia in mid-2003, are the largest and most severe on record. Never before in the history of this disease have so many countries been simultaneously affected, resulting in the loss of millions of birds.

The widespread persistence of H5N1 in poultry populations poses two main risks for human health.

In August 2006, a 16-year-old Thai boy died of bird flu infection. The boy's relatives were blamed for his death because they tried to hide an outbreak among their chickens.



The first is the risk of direct infection when the virus passes from poultry to humans, resulting in very severe disease. Unlike normal human flu, the disease caused by H5N1 is very likely to be fatal. Once a person is infected, their condition deteriorates rapidly and leads to death if not detected early. In the present outbreak, more than half of the people infected with the virus have died. Children and young adults are among the most vulnerable.

A second risk which presents more of a concern is the H5N1 virus itself. It is feared that a person with a human flu virus could catch the bird flu virus and the two viruses would trade genetic material and mutate into a new highly infectious human virus which spreads easily from person to person. Such a change could mark the start of a global flu outbreak or pandemic. The H5N1 virus by itself could also gradually adapt during human infections into a form that becomes easier to spread among humans. Experts now believe that the notorious 1918 "Spanish flu" pandemic was caused by a gradually mutating bird flu virus.

The bird flu virus — H5N1 — is now considered endemic in birds in many parts of East and South-East Asia, including Indonesia, Viet Nam, some parts of Cambodia, China, Thailand, and the Lao People's Democratic Republic. With the virus prevalent in these regions, conditions are perfect for its mutation into a new viral strain that could lead to a human pandemic.

In December 2006, a young girl died of bird flu infection in Egypt after her other two family members had also died of H5N1. The victims reportedly had been in contact with diseased ducks.



## Can a person catch bird flu? Are the effects fatal for humans?

Yes, bird flu can infect humans who have close contact with infected poultry or who touch contaminated equipment and materials. The disease can be fatal. However, keep in mind that at this stage the disease among humans remains a rare event. Almost all human cases have occurred in households with backyard poultry. Simple hygiene measures may prevent infection, and early recognition and treatment will reduce the risk of death.

## How is the bird flu virus transmitted to humans?

The virus is found in bird and poultry droppings and their respiratory secretions. Most cases of infected bird flu patients have contracted the virus directly from infected birds. Environmental contamination with the virus, such as touching contaminated equipment and materials, can also be a source of infection.

## What should one do if they think they have bird flu?

If you think you have been exposed to bird flu, seek medical advice as soon as possible.

## Is there a cure for bird flu in humans?

Besides intensive medical attention, Oseltamivir, registered and commonly known as "Tamiflu®", is the main anti-viral treatment for bird flu in humans. Zanamivir (Relenza®) is another effective treatment. However, these drugs only have an effect if given within two days of the onset of the illness. Even then, they may not be 100% effective.

