

## **Hot topic - Avian flu (bird flu)**

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A number of Asian countries have been affected by avian flu (bird flu) infecting their poultry stocks. In some of these countries, a small number of people have contracted the avian flu virus from chickens.

Scientists are concerned by these events because it is feared that the avian flu virus could merge with a human flu virus. The result of this merging might result in a new, highly infectious, rapidly fatal flu virus. Such a new virus would be transmitted rapidly from person to person with potentially devastating results. To keep the outbreak of avian flu virus under control, many of the Asian countries are culling their poultry stocks to prevent further spread of the virus.

### **What is avian flu?**

Avian flu is used to describe the influenza viruses that infect birds - for example wild birds such as ducks and domestic birds such as chickens. In fact, birds appear to be a natural reservoir of flu viruses - 15 subtypes influenza A virus are known to be circulating in bird populations.

Many forms of avian flu virus cause only mild symptoms in the birds, or no symptoms at all. However, some of the viruses produce a highly contagious and rapidly fatal disease, leading to severe epidemics. These virulent viruses are known as "highly pathogenic avian influenza" and it is these viruses that cause particular concern. One such avian flu virus is currently infecting chickens in Asian countries.

### **Why are scientists and governments so concerned about avian flu?**

Until 1997 avian flu was believed to only infect birds, however in 1997 it was discovered that the virus could occasionally infect people who have been in close contact with live birds in markets or farms.

This rare ability of avian flu viruses to infect humans (known as "species jumping") throws up a worrying possibility. It is possible that a highly pathogenic avian flu virus could merge with a human flu virus and create a new virus that could be easily passed between humans and was rapidly fatal. If this happens, the result could be the next flu pandemic.

### **What is a flu pandemic?**

When a new, highly infectious form of a flu virus is formed it can rapidly infect a large number of people. The result is an illness that rapidly spreads round the world and may cause widespread loss of life. An example is the Spanish flu pandemic of 1918-1919 which caused an estimated 40-50 million deaths worldwide.

## **How would an avian flu virus merge with a human flu virus to produce a new, highly infectious flu virus?**

There are two circumstances in which an avian flu virus could merge with a human flu virus:

**In humans** - if a person who already has flu is comes into close contact with birds who have highly pathogenic avian flu, there is a tiny chance that the person could become infected with the avian flu virus. If this happens, the person would now be carrying both the human flu virus and the avian flu virus. The two viruses could meet in the person's body and swap genes with each other. If the new virus had the avian flu's genes that made it rapidly fatal and the human flu's genes to allow it to be passed from person to person, a flu pandemic could result.

**In pigs** - pigs are susceptible to both human and bird flu viruses. If a pig became infected with both viruses at the same time, it could act as a "mixing vessel", allowing the two viruses to swap genes and produce a new virus.

## **Has such a new flu virus happened yet?**

No. There is no evidence that the people who have been infected with avian flu have passed the disease on to other people. This suggests that a new, highly infectious, flu virus has not been produced yet.

However, every time an avian flu virus jumps from a bird to a person, the risk of a new flu virus being produced increases. For this reason, governments are keen to prevent the spread of avian flu among birds and this is why they are culling their poultry stocks.

## **How is the avian flu virus transmitted?**

When a bird is infected with avian flu, it sheds the flu virus in its feces, saliva and mucus. Eating or inhaling the virus infects other birds. Very rarely, the virus can infect people who are in close contact with infected birds - for example by people inhaling dried feces that have become trampled into dust.

People cannot catch avian flu from eating cooked chickens.

It is suggested that travelers to Asian countries affected by avian flu should avoid poultry markets and farms to minimize any risk of becoming infected.

## **What is being done to contain the spread of avian flu?**

In the countries that have been affected by avian flu, governments have begun to cull affected poultry stocks. By removing the potential for the virus to spread through the countries' chicken populations, it is hoped that the virus will be contained and removed from circulation.

## What are the symptoms of avian flu in humans?

In humans, it has been found that avian flu causes similar symptoms to other types of flu:

- Fever
- Cough
- Sore throat
- Muscle aches
- Conjunctivitis
- In severe cases of avian flu, it can cause severe breathing problems and pneumonia, and can be fatal.

## Are there any treatments available for avian flu?

Antiviral medications used to treat human flu viruses appear to be effective in treating avian flu.

## How dangerous is avian flu?

Avian flu appears to have a high mortality rate among people who get it. There have been a number of small outbreaks of avian flu since 1997:

**Hong Kong 1997** - during this outbreak, 18 people were infected and 6 people died.

**Hong Kong 2003** - in a family that had visited southern China, there were two cases of the disease and one death.

**Far East 2004** - up to 10 deaths have been linked to this latest outbreak of the disease in a number of Asian countries.

## What is the current travel advice for visitors traveling to Asian countries affected by avian flu?

The **UK Department of Health (DoH)** advises:

"Although there is no restriction on travel to any of the areas where avian flu is being reported, travelers are advised to take sensible precautions such as avoiding bird markets, farm or contact with live poultry."

The **US Centers for Disease Control and Prevention (CDC)** advises:

"At this time CDC and WHO [the World Health Organization] have not issued any travel alerts or advisories for the region in response to the H5N1 [avian flu virus] outbreak. However, travelers to countries in Asia with documented H5N1 outbreaks are advised to avoid poultry farms, contact with animals in live food markets and any surfaces that appear to be contaminated with feces from poultry or other animals."

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