

## Q&A

# Bird Flu Explained.com

## The Facts

### Q What is bird flu?

**A.** Bird flu, also known as Avian Influenza (AI) is a disease that mostly affects birds. For many species of birds it is a highly contagious disease affecting the respiratory, digestive and/or nervous system. Bird flu viruses are normally only found in birds, but may infect pigs and have been known to infect sea mammals, mink, horses and other mammals. On rare occasions some bird flu viruses have infected humans however this is quite uncommon.

### Q. What is H5N1?

**A.** Many different subtypes of bird flu exist. The main subtypes are named after the combination of variants of two of the virus proteins. Each virus has one of 16 H subtypes and one of 9 N subtypes. Only viruses, which have the combination of H5 and H7 subtypes, are known to cause the highly pathogenic form of the disease that can infect humans.

However, not all viruses of the H5 and H7 subtypes are highly pathogenic and not all will cause severe disease in poultry and humans. Scientists have discovered four different subtypes of H5N1, all are deadly to birds, and can infect humans however this is rare as H5N1 is mostly a disease that affects birds and not humans.

### Q. How does it spread?

**A.** Bird flu is not an air-borne disease, unlike for example, Foot and Mouth Disease. Bird flu is spread by movement of infected birds or contact with respiratory secretions, and in particular faeces, either directly or through contaminated objects, clothes or vehicles.

### Q. What symptoms does bird flu produce in birds?

**A.** The severity of symptoms depends upon the strain of virus and the type of bird infected. In domestic poultry, infection with bird flu viruses causes two main forms of disease, distinguished by low and high extremes of infection. Some birds, especially waterfowl, can be infected with low pathogenic bird flu without showing any signs of disease or only mild symptoms (ruffled feathers, a drop in egg production, respiratory signs etc.) and thus may go undetected.

The highly pathogenic form is far more dramatic. Birds infected with highly pathogenic bird flu may die suddenly or show a range of clinical signs including respiratory problems, swollen heads, dullness, a drop in egg production, and a loss of appetite. It spreads very rapidly through poultry flocks, causes disease affecting multiple internal organs, and can kill up to 100% of the infected birds, often within 48 hours.

## History & Outbreaks

### Q. When was it first discovered?

**A.** Bird flu was originally known as “fowl plague” and it first appeared in Italy more than 100 years ago (around 1878).

### Q. Which countries have experienced outbreaks of bird flu?

**A.** Bird flu outbreaks were officially recorded in the Pennsylvania area, USA, in the years 1983-84 and a serious outbreak found in the Netherlands in 2003, spreading to Belgium and Germany, affected some 250 farms and necessitated the slaughter of more than 28 million birds.

The H5N1 strain of bird flu, which surfaced in South East Asia in early 2004, has led to the destruction of millions of birds, and started to spread west through Europe, Russia and Africa.

There were also a small number of cases of bird flu in the USA and Canada early in 2004. The USA strain in Texas was, however, identified as H5N2, not the same as the strain in South-East Asia and the strain in Canada was H7.

In the last three years, a series of outbreaks have occurred across Europe including France, Britain, Sweden, Denmark, Germany, Czech Republic, and Hungary but with early detection and effective control they were eradicated quickly.

### Q. Which areas of Britain have experienced outbreaks of bird flu?

**A.** Outbreaks of mild bird flu [viruses] have occurred on farms across the UK for decades.

The first time the highly pathogenic H5N1 virus was found in the UK, was in April 2006, after it was detected in a dead swan in Fife, Scotland. In February 2007, an outbreak of this H5N1 virus occurred on a poultry farm in Holton, Suffolk. In both cases the infection was quickly contained and eradicated.

Following the Holton outbreak, the H5 strain of bird flu was identified near Diss and a case of H7 bird flu, also highly pathogenic, was detected on an organic poultry farm in Banbury, Oxfordshire. However, since June 2008, there have been no cases of high pathogenic Avian Influenza in the UK.

More recently, in February 2009, the low pathogenic H6 strain of the virus was identified on two small breeder farms in Norfolk and Suffolk.

### Q. Has bird flu reached pandemic levels?

**A.** No it hasn't. There have been severe and prolonged outbreaks in birds in South East Asia and Egypt but only sporadic and isolated occurrences in the rest of the world. The outbreaks cannot be described as a pandemic; there is not a worldwide outbreak of bird flu in birds, humans, or animals at this time.

## Eating Poultry & Eggs

### Q. Is it safe to eat poultry?

**A.** Yes it is safe to eat properly cooked poultry. On the basis of current scientific evidence, the Food Standards Agency advises that bird flu does not pose a food safety risk for UK consumers. Consumption of properly handled and properly cooked poultry is safe. Cooking food thoroughly (at least 70° C at the centre of the product - “piping” hot - or when the meat is not pink in any part) will kill bacteria and viruses. To date, there is no evidence that people have become infected following consumption of contaminated poultry meat that has been properly cooked. This virus is especially prone to heat during cooking.

### Q. Is it safe to consume and/or handle uncooked poultry meat?

**A.** There have been reports of a few human cases potentially linked to the bird flu virus by consuming raw poultry. It should therefore be emphasised that the consumption of any raw poultry parts must be considered a high-risk practice and discouraged. In areas of Asia or Egypt affected by highly pathogenic H5N1 bird flu virus, the handling of frozen or thawed raw infected poultry meat prior to cooking may be hazardous, if good hygienic practices are not observed. Standard hygienic handling practices should be used to prevent cross contamination, which renders the process safe in Britain:

- Clean and disinfect all work surfaces, equipment and utensils used for preparing poultry frequently and wash your hands regularly
- Separate raw meat and cooked meat
- Ensure that food is cooked to the proper temperature, reaching 70°C in all parts of the food. If you're cooking a whole chicken or other bird, pierce the thickest part of the leg (between drumstick and thigh) with a clean knife or skewer until the juices run clear.

### Q. Is it safe to eat eggs?

**A.** Highly pathogenic H5N1 bird flu virus can be found inside and on the surface of eggs laid by infected birds. There is no evidence to suggest that people have been infected with bird flu through the consumption of eggs or egg products. However, only proper cooking will kill the virus present inside the egg. The FSA advises that eggs from areas with outbreaks in poultry should not be consumed raw or partially cooked (runny yolk).

### Q. Are there measures in place to prevent infected poultry and eggs entering the food chain?

**A.** Yes, robust measures are in place to prevent infected poultry and eggs entering the food chain. When an outbreak of bird flu occurs in wild birds or a poultry flock, the authorities are required to put in place controls that aim to prevent the spread of the disease. These controls will also mean it is very unlikely that infected poultry or eggs will enter the food chain. On the basis of current scientific evidence, the Food Standards Agency advises that bird flu does not pose a food safety risk for UK consumers.

## Q. Are controls in place to stop poultry and eggs being imported from affected countries?

**A.** Controls are in place to prevent imports of live birds, poultry meat and eggs from several non-EU countries that are affected by bird flu. When an outbreak of bird flu occurs in wild birds or a poultry flock in an EU Member State, trade within the European Community may continue, but trade of poultry and poultry products from the affected parts of any Member State will be banned or allowed after close and detailed supervision, ensuring only birds free from risk have been processed, to protect animal health, and to deliver safe food for EU consumers in all Member States.

## Human Health & Effect on Domestic Animals

### Q. Does the virus spread easily from birds to humans?

**A.** No it doesn't. Only a small number of humans have been infected compared with the huge number of birds affected and the numerous associated opportunities for human exposure, especially in areas where backyard flocks are common. In backyard farms in the Far East, birds sometimes sleep in the house in the same room as the family. It is closeness that can create cross infection.

### Q. How do people become infected with bird flu?

**A.** Firstly it is important to point out that there is no evidence to suggest that properly cooked poultry or eggs can be a source of infection.

To date, most human cases have occurred in rural or urban fringe areas in developing Countries where many households keep small poultry flocks, which often roam freely and sometimes enter homes or share outdoor areas where children play. Direct contact with infected poultry, or surfaces and objects contaminated by their faeces, is presently considered the main route of human infection by the H5N1 virus. As infected birds shed large quantities of virus in their faeces, opportunities for exposure to infected droppings or to environments contaminated by the virus are abundant under such conditions.

Moreover, because many households in Asia depend on poultry for income and food, many families sell or slaughter and consume birds when signs of illness appear in a flock, rather than disposing of the birds safely, and this practice has proved difficult to change. Exposure is considered most likely during slaughter, de-feathering, evisceration and butchering.

Poultry keeping practices are very different in the UK and the risk of coming into contact with bird flu is much lower for the general population. In the recent outbreak in Holton, Suffolk not one person was infected despite humans working closely with the birds.

### Q. Which groups of people would be at most risk if we had the disease in poultry in the UK?

**A.** People in close contact with infected poultry or infective material from poultry are most at risk. This would include poultry farm workers, veterinarians and others involved in disease control. On the basis of current scientific evidence, the Food Standards Agency advises that bird flu does not pose a food safety risk for UK consumers.

## Q. Can people get it from other people?

**A.** There have been a limited number of cases in which there has been evidence to suggest person-to-person transmission, but to date there is no evidence that the highly pathogenic bird flu virus has adapted to spread between humans.

## Q. Is there a human vaccination against bird flu?

**A.** No, there is currently no vaccine to protect people against bird flu infection or disease, though one is being developed. There is however good evidence that bird flu viruses respond to antiviral drugs. In the UK appropriate antiviral agents would be used for the treatment of bird flu in people exposed to the virus or to protect people, including poultry workers, who might become exposed to the virus during disease control activities. Such people will be supplied with appropriate antiviral drugs, under medical supervision, as soon as possible after potential exposure and at least within 48 hours of exposure.

## Q. Can I get bird flu from handling wild birds?

**A.** H5N1 bird flu is first and foremost a disease of poultry. Most human cases of H5N1 bird flu have occurred in rural areas where many households keep small domestic poultry flocks. The H5N1 bird flu virus is probably transmitted to humans through exposure during slaughter, defeathering, evisceration, butchering and preparation of domestic poultry for cooking. Transmission through the handling of dead wild birds or their parts, such as feathers, is also possible although the ACDP (Advisory Committee on Dangerous Pathogens) consider that the risk of transmission from wild birds is small. However, to minimise any risk it is advisable to carry out general hygiene precautions when handling wild birds, such as wearing disposable protective gloves when picking up and handling carcasses and washing hands, nails and forearms thoroughly with soap and water after handling the carcass. The public should report, and avoid contact with, dead wild birds. De-feathering or butchering of dead wild birds, especially waterfowl, is particularly hazardous in areas where H5N1 bird flu virus has been reported or is likely to occur, such as along migratory routes.

## Q. Do pigeons carry and spread bird flu viruses in nature?

**A.** Studies of pigeons since 1997 suggest that pigeons have played a minimal role in the spread of the virus. However, the latest studies conducted with the H5N1 bird flu virus, which emerged in Asia in 2004, demonstrated an increased susceptibility of pigeons to this virus compared to the 1997 Hong Kong virus. Thus, the general public should try to avoid unnecessary close contact with pigeons, especially in places where pigeons congregate in large numbers. Pigeons also carry Psittacosis or Parrots disease, which can be passed to humans via small scratches from claws, so avoiding birds landing on arms and heads is very sensible.

## Q. What can be done to prevent bird flu infections in domestic cats and dogs?

**A.** Domestic cats will eat small animals, including sick birds and poultry, and may become victims of any infection in this prey. To reduce the risks of the H5N1 bird flu virus infecting domestic cats in areas where the H5N1 bird flu virus has been identified in domestic or wild birds, direct contact between cats and birds should be avoided, and any unusual morbidity or mortality in cats should be closely monitored. Owners of cats and dogs in designated control and surveillance areas surrounding an H5N1 bird flu outbreak should control the movement of their pets.