

Q: What is influenza?

Influenza or, as it is often known, flu – is a large family of different viruses (more than 70 major types), some of which affect humans and many of which affect other animals and especially birds.

Q: What are the different types of influenza?

Ordinary (or 'seasonal') flu outbreaks affecting humans occur each winter in Scotland. During these outbreaks, thousands of people in Scotland become ill and some die.

Avian influenza (Bird flu) occurs mainly in birds and indeed birds are thought to be the natural host for these infections with wildfowl and ducks etc playing the most important role. Most strains of **bird flu** (or **avian influenza**) are relatively harmless both to their natural bird hosts and do not infect humans – this sort is known as low pathogenic avian influenza (LPAI). However, some types of bird flu are more harmful for certain birds and animals they are called highly pathogenic avian influenza (HPAI).

Pandemic influenza is a new form of human influenza which spreads around the world and occurs when a strain of flu virus appears to which most people have no resistance to. In the 20th Century pandemic influenza has occurred three times during 1918, 1957 and 1968.

Pandemic influenza

The main concern expressed by health experts is that the A/H5N1 bird flu virus might possibly change or mutate into a new, deadly form of human influenza. If A/H5N1 were to adapt so that it could easily be passed from human to human, the world could be faced with influenza **pandemic**. A **pandemic** is the spread of a new human influenza around the world. Influenza pandemics happen when a strain of the flu virus appears to which most people have no resistance. Pandemic influenza is therefore much more severe, in terms of the number of people who become ill and the number who die, than the outbreaks of **ordinary flu** which happen each winter in Europe. During a **pandemic influenza outbreak**, many millions of Europeans will become ill and hundreds of thousands – perhaps millions – will die.

Q: What isn't avian influenza

Avian influenza should not be confused with '**bird fanciers lung**' which is not a disease of birds and no germs are transmitted. It is an allergic disease in people who are sensitive to feathers, droppings and dust from birds and birdhouses. The lungs are affected and an

allergic person may cough or have asthma like symptoms such as difficult breathing and wheezing.

Q. Does avian influenza affect humans?

Avian influenza can occasionally infect humans who have close contact with birds and bird products but it rarely causes problems. However **influenza A/H5N1** is different. In the Far East where A/H5N1 is common in Viet Nam, Cambodia, Thailand and Indonesia over one hundred people have become severely ill when they have been infected with this virus. More than half of them have died.

Fortunately so far **A/H5N1 is not very infectious for humans**. While over a hundred people have become ill with the infection this is a very small number compared with the millions who must have been exposed in the Far East through living with infected birds.

Q: How are humans infected with avian influenza?

Humans are usually infected through close contact with live infected birds. Birds shed influenza virus in their faeces so contact with faeces (for example by visiting enclosures or markets where birds have been recently kept) is also a possible transmission route.

Q: Are all wild birds affected with avian influenza?

No. The H5N1 viruses seem best adapted to water living birds, the wild-fowl ducks, swans etc. However beyond them we are seeing a number of other species affected occasionally so that it is not possible to easily say which birds are and are not affected.

Q: Can people catch H5N1 from other people?

Even when people have really been infected with H5N1 the risk of them passing this on seems to be very low. Though person-to-person transmission may have happened it seems to be very rare. There is very little risk from people with H5N1 though when cases have occurred it is important that other people in the same household and nearby are quickly assessed to see if any further steps are needed.

Q: How long does it take to develop symptoms after infection with avian influenza?

The time from exposure to the source of infection to onset of influenza is likely to be between three and three days, with a maximum time of seven days.

Q: How severe is the illness caused by avian influenza?

This appears to vary. In the Hong Kong outbreak of avian influenza (subtype H5N1) infection in 1997 there were 18 human cases and six deaths. In the Netherlands outbreak caused by H7N7 avian influenza there were 88 cases with minor symptoms like conjunctivitis (eye infection) and one death. In the current outbreak in southeast and east Asia (caused by H5N1) human illness is very severe in most reported cases. Some cases have been reported to have fully recovered; other cases have reportedly died with pneumonia. Factors underlying severity of illness are not well understood.

Q: Have there been any human cases of avian influenza in the UK?

In England in 1996 there was a single case of a female farmer who acquired H7 influenza (typically avian) and suffered conjunctivitis after cleaning out a poultry house. There have been no human cases imported into the UK associated with the recent poultry outbreaks in southeast and east Asia. People with recent infections acquired in southeast and east Asia are unlikely to present in the UK because infection is rare and the time from exposure to infection and onset of symptoms is short.

Q: If I have avian influenza what symptoms can be expected?

Early symptoms in humans are likely to be similar to human influenza such as fever and cough.

Q: Will my flu shot protect me against avian influenza?

Your usual annual flu vaccination will not provide any protection against avian flu. A new vaccine would need to be produced for this new strain of flu.

Q: Is there a vaccine effective against H5N1 (avian influenza) in humans?

No. Currently available vaccines will not protect against disease caused by the H5N1 strain in humans. WHO is urgently working together with laboratories in the WHO Global Influenza Surveillance Network to develop a prototype H5N1 virus for use by leading vaccine manufacturers.

Various organisations worldwide are working towards producing a vaccine against avian flu (H5N1) including the National Institute for Biological Standards and Control (NIBSC) in the UK. Some organisations and some manufacturers have produced candidate vaccines which

can be evaluated in humans. However mass production of a vaccine will not take place unless there is evidence of efficient spread between humans.

Q: Is it true that some countries are starting to stockpile an H5N1 vaccine?

Yes but until the pandemic starts, it is difficult to predict what strain of influenza will cause it. Predictions may prove to be wrong or the predicted virus may have changed enough for a pre-prepared vaccine to be ineffective.

Q: Are any drugs available for prevention (prophylaxis) and treatment?

Yes. While two classes of drugs are available (The M2 inhibitors - amantadine and rimantadine - and the neuraminidase inhibitors - oseltamivir and zanamivir) initial analysis of viruses isolated from the recently fatal cases in Viet Nam indicates that the viruses are invariably resistant to the M2 inhibitors. Oseltamivir has however been demonstrated under laboratory conditions to be effective against the current H5N1 strains. Most experts agree that neuraminidase inhibitors will be vitally important in managing the consequences of a future influenza pandemic. The UK government is taking steps to ensure these will be available.

Q: Is there any risk of avian influenza from feather imported from Asian countries?

The importation of feathers from affected Asian countries into the UK is only permissible if strict cleaning methods (recommended by international experts) have been undertaken prior to import. All consignments of processed feathers from affected countries must also be accompanied by commercial documentation stating that the required cleaning has already taken place. The risk to UK residents from imported feathers is therefore considered negligible.

Feathers exported in a dirty (unprocessed) state would be highly susceptible to deterioration in transit to the UK such that they would be foul-smelling, unsuitable for use in commercial bedding, upholstery or clothing, and easily detectable by smell, sight or both. China in particular has invested massively in bulk feather processing facilities; therefore illegal importation or cleaning practices are judged to be extremely unlikely.

Q: Is it safe to eat poultry meat and eggs?

On the basis of current scientific evidence, our advice is that avian flu does not pose a food safety risk for UK consumers. For people, the risk of catching the disease comes from being

in close contact with live poultry that have the disease, and not through eating cooked poultry or eggs.

Current advice is based upon the opinions of scientific experts around the world including advisers to the WHO, EFSA and the ACMSF. The FSA has monitored developments since avian flu was first reported in the Far East eight years ago. During that time, most human cases have had close contact with infected birds. Current scientific opinion agrees that avian flu is not a food safety risk.

Q: How about touching uncooked poultry meat?

It is advisable that you should always wash your hands after handling raw poultry meat and eggs to avoid contamination from any bugs.

- Do not handle uncooked poultry if possible but after handling wash hands thoroughly

Q: Would cooking poultry and eggs properly kill the virus?

- Cooking food thoroughly will kill bacteria and viruses. Poultry and eggs should always be cooked properly to avoid food poisoning.

People should follow the handling and cooking instructions for cooking poultry.

- Poultry should be prepared hygienically and thoroughly cooked to an internal temperature of 70 °C
- 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. The juices shouldn't have any pink or red in them and there should be no pink meat.

People should not eat raw eggs or use raw eggs in dishes that will not be cooked. Eggs should be cooked until the whites are solid.

Q: Can I catch bird flu from eating food coming from affected countries? I see the EU has banned bird meat from Turkey and Romania

No. You will not catch bird flu from eating chicken and other poultry from affected countries. In the first instance cooking always kills influenza viruses.

It is easy to be confused by the poultry products imports ban. The reason it is there is the same as why live poultry are banned. It is to stop the virus spreading from the bird flocks in one country to another.

You will remember how when there was the problem with foot and mouth disease in the UK animal products from there were banned for a while even though humans cannot catch animal foot and mouth disease. This is the same thing.

This applies to a number of animal diseases. It is the reason why people are not allowed to bring back animal products generally when they have been on holiday outside the EU.

Q: How easy is it to kill the virus?

Yes the avian flu virus is killed by heat (56 degrees C for 3 hours or 60 degrees C for 30 minutes) and common disinfectants, such as formalin and iodine compounds. Thorough cooking of any poultry meat will destroy the virus.

Q: Why does this advice differ from that of the WHO?

The World Health Organisation advises the cooking of eggs until both yolks and whites are solid. The FSA have discussed this with WHO and they confirm that this advice is precautionary. Their advice on cooking eggs is relevant for all bacteria and viruses that may be present - for all parts of the world.

In the UK, independent expert advice has confirmed that it is not necessary to cook eggs until the yolks are hard to protect against exposure to the avian flu virus.

Q: How worried should we be now A/H5N1 bird flu has arrived in Europe?

A: This is a major problem for Europe's poultry farmers. Tens of millions of chickens, ducks and turkeys have died or been destroyed in farms across southeast Asia because of the A/H5N1 virus. But in human health terms, A/H5N1 would not pose a major health threat to most Europeans. Other than a few high risk groups such as farmers and vets, and people who have backyard flocks; most Europeans have little direct contact with birds and so would have little or no danger of being exposed to the virus.

The fact that A/H5N1 is in Europe probably makes it no more or less likely that a pandemic virus will emerge. That is why WHO has not changed its pandemic alert phase despite the virus moving from South East Asia to Russia and the Rest of Europe.

Q: What are the clinical signs of avian influenza in chickens?

Typically the disease presents suddenly with affected birds showing oedema of the head, cyanosis of the comb and wattles, dullness, lack of appetite, respiratory distress, diarrhoea

and drop in egg production. Birds may often die without any signs of disease being apparent. However, there can be considerable variation in the clinical picture and severity of the disease.

Q: Why don't you vaccinate poultry?

The vaccines that are currently available to protect against avian influenza disease are inactivated types and need to be delivered by injecting birds individually. It can take up to three weeks for birds to develop protective immunity and some poultry require two doses. The difficulties in delivering such a vaccine to a large number of birds are huge and render this approach impractical on a large scale. So far, only one vaccine has a provisional marketing authorisation in GB. Marketing authorisation signals that a vaccine has passed basic tests for safety and efficacy, and is safe to use in the food chain.

Q. What is the public's role in this?

Members of the public who notice one or more dead swans/wild fowl (ducks and geese), more than 3 dead birds of the same species or more than 5 dead birds of different species, in the same place, should contact the helpline (08459 33 55 77). Currently the helpline is available between the following hours: Monday - Friday, 8 am to 8 pm and Saturday - Sunday, 9 am to 6 pm . They will be asked for details of their finding and its location.

Q. What should I do if I come into contact with wild birds?

Wild birds and other animals commonly carry diseases, some of which may be harmful to humans. Therefore the usual hygiene precautions should always be taken when visiting the countryside both in Scotland and abroad i.e. hands should be washed before eating or drinking, footwear should be cleaned upon return etc. Taking these precautions will also help safeguard the health of any pets or livestock you have at home.

Q: What do I do if my family or I have come into direct contact with poultry, wild birds or other animals or their waste in an area where H5N1 has been detected?

The guidelines are the same as for anywhere

- Wash hands well with soap and water after any contact and
- Remove your shoes outside the house and clean them of all dirt
- Follow the standard rules for food hygiene

In addition

If you or a family member who has had contact with sick or dead poultry, wild birds or other animals develop a significant temperature ($>38^{\circ}\text{C}$) and / or a respiratory infection or diarrhoea get advice from a doctor or nurse or visit the nearest health care facility. It is important to mention any significant exposures (e.g. contact with sick poultry or a dead wild bird). The chances of this being H5N1 is very slim but its best to be safe and the illness may be caused by another zoonosis.

Q. What should I do to prevent getting infected with avian influenza?

The level of risk for people who are not in one of the at risk groups is very, very low.

- The risk becomes almost non-existent if the following precautions are followed:
- If you come across any dead or sick birds, do not touch them.
- Ensure that poultry meat and eggs are thoroughly cooked.

It is highly unlikely that H5N1 can be passed on to humans by raw meat or eggs, but if you cook your food properly this will eliminate the risk entirely. It will also protect you from salmonella and other organisms that cause food poisoning.

Q: What is different when H5N1 has been confirmed locally recently in domestic or wild birds or other animals?

When a highly pathogenic bird flu, especially H5N1 has been confirmed locally in poultry, special veterinary emergency rules and procedures come into play, such as preventing movement of domestic birds and increasing surveillance in what are called Protection and Surveillance Zones. Hygiene rules also become tighter, for example to prevent ordinary people accidentally carrying the infection from one farm to another on their shoes or vehicles. If you are in one of these areas the local authorities will let you know what these rules say. After a certain period these rules are then relaxed back to the normal level.

Q. Can I still feed birds?

Feeding birds remains safe but it is sensible to wash your hands thoroughly after filling or cleaning bird feeders or feeding pigeons or ducks. You are advised not to let birds feed out of your hands, and again, to wash your hands thoroughly if you come into contact with bird droppings especially before eating or drinking. Children should be closely supervised in parks with waterfowl to ensure they don't transfer infected material to their faces. You should avoid direct contact with wild ducks/swans and particularly if they are dead.

Q: Are other animals affected?

Yes but it is rare. A few animals that will eat birds have become infected including cats that have been out hunting. That is why when there is a proven outbreak in birds those responsible for animal health may recommend people restrict the movement of their domestic cats.

Q: Cats have been infected with H5N1 – does this mean my family or I are at risk from our animals at home?

Cats can become infected with H5N1 and can infect other cats they are in close contact with them. However the risk of any specific cat catching the virus from a wild bird is very small indeed and we do not know if they can transmit the infection to humans.

Therefore the rules specifically in relation to H5N1 are

- Sick domestic animals that eat meat and might have eaten infected birds (i.e. you in an area where H5N1 has been reported recently) should be treated as a possible infection hazard.
- do not handle the animal unless you have to and then use gloves.

Q: Is there any risk from bathing where there are wild birds ?

Risk assessments have been undertaken on this by authorities in Europe and these suggest that the risk, if there is any is incredibly small at present because the current form of H5N1 virus is poorly adapted to humans. It also does not survive for very long in water, especially salt water.

There are higher risks of other infections; most of them are from humans not birds or other animals. That is why the European Union has recently adopted a new Bathing Water Directive and most EU countries monitor the quality of water where people bathe in fresh or seawater.