

**What is avian influenza?**

Avian influenza (commonly called bird flu) viruses infect domestic poultry and wild birds. Avian influenza viruses are typically of 'low pathogenicity', causing undetectable respiratory disease, and drops in egg production. However, a few avian influenza viruses cause severe infection and death in birds. These viruses are called 'highly pathogenic'. In most wild birds, avian influenza viral infections are not obvious.

**What do the H and the N mean when naming avian influenzas?**

All avian influenza viruses are classified by a combination of two groups of proteins found on the surface of the virus. These are hemagglutinin proteins (H), and neuraminidase proteins (N). Only avian influenza viruses containing H5 and H7 are currently thought to cause serious disease in birds and occasionally in mammals, including people. Currently the Asian strain, H5N1, has caused much poultry disease and all avian influenza human disease since 1997.

**What's the difference between high and low pathogenicity?**

The virus is considered low or highly pathogenic based on the severity of the illness in birds. Highly pathogenic avian influenza (mainly the H5, or H7 subtypes) causes severe illness and death in birds.

Low pathogenic viruses cause less serious illness and the affected birds are not obviously ill, or mildly so, and most often recover. Avian influenza viruses of the H5 or H7 subtypes can also often be low pathogenic strains.

Every precaution has and continues to be taken to protect human health regardless of the virus's pathogenicity in birds.

**How does avian influenza affect people?**

Until recently, it was thought that avian influenza only rarely affected people and caused only mild disease such as conjunctivitis (inflammation of the eye). Since 1997, however, more severe illness has occurred in people who have had continuous close contact with birds infected with one highly pathogenic strain of avian influenza (H5N1). This strain has been associated with a very high death rate.

**What is the health risk to Nova Scotians?**

With respect to the presence of avian influenza viruses in wild birds in Canada, we have no information suggesting a new threat to human health.

Wild birds naturally carry low pathogenic influenza viruses and have for many, many years. From a human health perspective, there is no reason to believe that the risk has changed from what it has been in the past.

Although the risk is considered low, it is important that groups that may be in contact with wild birds - such as hunters - be aware of appropriate safety measures. People handling wild birds and poultry should follow routine hand washing and safe food preparation practices.

It is important to note that just because there is presence of H5N1 in wild birds, or in a flock, in a country, does not mean that humans will be infected. What is reassuring is that while most European countries now have the Asian avian influenza strain, no humans have yet been infected in Europe. This is likely due to better infrastructure and control practices, similar to ours in Canada.

### **What are the symptoms of avian influenza?**

Although human cases of avian influenza are rare, people who become infected with the H5N1 virus can become seriously ill, most commonly with respiratory infection or conjunctivitis. The symptoms can resemble those of human influenza, including fever, cough, aching muscles and a sore throat.

### **Why are we concerned about avian influenza?**

Experts believe a pandemic virus may emerge from a highly pathogenic avian influenza virus, for example if it mixes with a human influenza virus, creating a new virus which is highly infectious for people.

The avian influenza presently affecting poultry flocks in some foreign countries at the present time has increased experts' concern. The highly pathogenic avian influenza virus (H5N1) which is causing these outbreaks has affected some people, causing serious illness. Scientists fear that this virus may change with time to make it easier to pass from person to person.

### **Do we have avian flu here in Nova Scotia?**

Wild birds, including those in Nova Scotia, naturally carry influenza viruses, and have for many, many years. H5 and H7 avian influenza viruses were found in our Atlantic Region wild bird surveys last year, but they were not the Asian strain. We will continue to see flu viruses in wild birds.

Most commercial poultry flocks are kept indoors where there is limited potential for exposure to wild birds. However, it is good to be prepared, and that's why we're doing this surveillance.

### **Can the highly pathogenic strain of avian influenza come to Nova Scotia?**

Some North American birds spend the winter in Asia and may come into contact with potentially infected domestic or wild birds during the winter months. On their return they could infect other birds on the breeding grounds. These birds could subsequently migrate to Nova Scotia.

### **If I find dead birds what do I do?**

Staff of the Department of Natural Resources will investigate unusual mortalities where five or more dead birds are found in an area. For ducks, geese, gulls, seabirds and shorebirds, investigations will be conducted when there are three or more and for herons, loons, hawks, owls and eagles if there is one or more. Where appropriate, collections will be made and the birds sent to the Atlantic Veterinary College in PEI for testing.

**Is there a vaccine for avian influenza? Will the annual flu shot protect against it?**

The annual flu shot will not protect against avian flu. The concern is that bird flu will combine with human flu virus to create a new virus that could spread easily among people. That's where the flu shot might come into play.

If avian influenza were to be found on a farm, numerous steps would be taken to protect farm staff and family. Public Health Services would offer antiviral medication and annual flu vaccine, the first to prevent avian influenza, and the second to prevent exposed people from becoming infected with annual influenza at the same time.

Vaccination of poultry against avian influenza is not always practical, effective, or economical in any given outbreak situation. Vaccination is one of many strategies that the Canadian Food Inspection Agency (CFIA) may employ during an avian influenza outbreak. The CFIA is working with the United States Department of Agriculture for access to a vaccine bank in this event.

**Is there a treatment for avian influenza?**

In poultry, there is no practical, specific treatment for avian influenza. On occasion, recovered flocks are known to shed the avian influenza virus in their environment.

Antiviral drugs are helpful in treating avian influenza in humans. To be effective, antiviral drugs have to be taken before symptoms start. The province has a stockpile of antiviral drugs for emergency use and is building up this stockpile.

**When did we start bird surveillance?**

Surveillance on live ducks was done in 2005 and some testing on dead birds began late that year. Further testing on live birds is planned for this year, and more directed collections of dead birds was begun in late April of 2006.

**What else are we doing to get prepared for an outbreak of avian influenza?**

The province continues in its preparedness:

- Bird surveillance is ongoing
- Provincial public health staff are in contact with Agriculture and the Canadian Food Inspection Agency (CFIA) and continue to monitor the avian influenza situation worldwide.
- We are prepared to respond to protect people who might come into contact with infected birds.
- Our district health authorities continue to maintain surveillance for severe respiratory

- illness in people who have been in areas where H5N1 is prevalent.
- District health authorities are all participating in our flu surveillance program.
  - We continue to enhance our antiviral stockpile in partnership with the federal government.
  - The Nova Scotia Department of Agriculture is working with partners in the poultry industry to prepare.
  - Recently, the provincial government has signed a FADES agreement with the Canadian Food Inspection Agency (CFIA). FADES stands for 'Foreign Animal Disease Emergency Support', and defines the roles and responsibilities of each partner during a disease outbreak.

### **Is it still safe to eat meat and eggs?**

There is no evidence to suggest that the consumption of cooked poultry or eggs could transmit the avian flu to humans. All the evidence to date indicates that thorough cooking will kill the virus.

### **Is avian influenza transmissible to humans?**

Occasionally, people have contracted avian flu from poultry, and limited, inefficient human-to-human transmission is suspected in some cases. To date, the avian influenza viruses that have caused illness in people include the H5N1, H7N7, and H7N3 subtypes, with H5N1 associated with the most serious illness in humans.

### **Why are so many people in South East Asia dying?**

To date, most human cases (which have actually been limited in number but have had high death rates) have been linked to prolonged, direct contact with infected poultry. Often, this contact includes high risk exposure where people live in close contact with poultry and during the slaughter, de-feathering and preparation of poultry for cooking, and participation in the consumption of raw poultry blood from sick birds.

An increase in human cases of avian influenza in South East Asia coincides with new outbreaks of the virus in birds. Avian influenza will remain a threat as long as the virus is circulating in the country. Avian influenza viruses become more active in cooler temperatures so it is likely that we'll continue to see more poultry outbreaks as well as human cases.

### **Is H5N1 going to evolve into a strain of pandemic influenza?**

We don't know for sure whether or not H5N1 will evolve into a pandemic strain, but it has shown the ability to mutate, so it is a concern. Influenza viruses are constantly changing over time and it is possible that changes in the virus currently affecting South East Asia can result in a virus that is more efficiently transmissible to and among humans. While there have recently been changes in the virus, there is currently no indication that the virus has changed to a form that could result in a pandemic. This possibility is being closely monitored.

### **How will we know if H5N1 is becoming a pandemic strain?**

If H5N1, or any other strain of avian influenza, were to evolve into a pandemic strain of influenza, we expect, based on the scientific research that's been done, that we would see efficient and sustained human-to-human transmission of the virus. This means we would see a large and growing number of new and unrelated cases increasing daily which, to date, has not been the case.

It is important to note that the presence of H5N1 in a country does not mean that humans will be infected.

**Can mosquitoes transmit avian influenza from birds to people, like West Nile?**

There is no evidence that the influenza virus can be transmitted by mosquitoes.

**What other measures should travellers take when visiting countries affected by avian influenza A (H5N1)?**

Travellers to countries with known outbreaks of avian influenza A (H5N1) should 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.

For more information on ordinary influenza, visit [www.gov.ns.ca/health/ocmoh/flu](http://www.gov.ns.ca/health/ocmoh/flu)

For more information on pandemic influenza, visit [www.gov.ns.ca/pandemic](http://www.gov.ns.ca/pandemic)

Also visit <http://www.phac-aspc.gc.ca/influenza> for more information on influenza.