

Avian Influenza (AI) is a highly infectious disease affecting many species of birds, including domestic poultry, which can result in significant mortality. However, the transmission of AI virus from bird to humans is a rare event.

WHAT IS AVIAN INFLUENZA?

Avian Influenza (AI), commonly referred to as 'bird flu', is a highly contagious viral infection of birds. The disease is caused by either highly pathogenic or low pathogenic strains. Pathogenicity refers to the ability of the virus to cause disease in the host. Some highly pathogenic avian influenza viruses (HPAI) can cause sudden, high mortality (up to 100%) in domestic poultry (chickens) and turkeys. Low pathogenic avian influenza viruses (LPAI) can result in some mortality, but often presents with few or no symptoms.

HPAI is now established in several countries in East Asia.

Influenza viruses can mutate or change readily. Experience from overseas outbreaks have demonstrated the risk of LPAI strains mutating to more highly pathogenic forms of the virus, HPAI, in situations where the initial outbreak has not been adequately controlled.

Influenza viruses can also change and become more pathogenic through genetic reassortment. There is a small chance that if an animal or person is infected with more than one type of influenza virus at the same time, then the viruses could combine (genetic reassortment) to produce a new virus that is more pathogenic or that is able to spread more easily between people.

Even though the risk of AI viruses infecting humans and the potential risk of new influenza viruses posing a threat to the wider community is low, it is one of the main reasons we control AI virus infections in poultry.

HOW IS THE VIRUS SPREAD?

Wild birds are considered the natural host for AI. Certain water birds act as reservoirs of influenza viruses by carrying the virus in their intestines. Infected birds shed the virus in saliva, nasal secretions and faeces. Avian influenza viruses spread among susceptible birds through contact with contaminated nasal, respiratory, and faecal material from infected birds.

WHAT SPECIES ARE AFFECTED?

Domestic poultry, ducks, geese, turkeys, guinea fowl, quail, pheasants, emus and ostriches are susceptible. Many species of wild birds, including waterfowl and seabirds can carry the virus but usually show no signs of disease.

AI in pet birds such as budgies, canaries and other caged birds has not been a feature of previous outbreaks.

CAN THE VIRUS SPREAD TO HUMANS?

Avian influenza is rarely spread from birds to people. The transmission of AI virus from birds to humans can occasionally occur with some strains of the virus. For example, the H5N1 subtype (a HPAI strain) prevailing in East Asia has infected people who had very close contact with infected birds resulting in serious infections and some mortalities. For humans to be infected from birds, they must come into close contact with infected birds or their droppings.

Overall there have been very few human mortalities as a result of AI and no cases of AI in people have ever been reported in Australia.

People can not get infected by eating eggs or cooked chicken meat and rarely infected by contact with other infected people.

WHAT ARE THE HUMAN SYMPTOMS OF AVIAN INFLUENZA?

The reported symptoms of avian influenza in humans range from typical influenza-like symptoms (e.g. cough, fever, sore throat and muscle aches) to eye infections, pneumonia, acute respiratory distress and in rare cases death. The most common sign is conjunctivitis.

I THINK I HAVE AVIAN INFLUENZA - WHAT SHOULD I DO?

Medical advice should be sought immediately if you or anyone you have been in close contact with, experience the symptoms noted above after coming into contact with infected or suspect birds. This also applies if you think you have been exposed to other infected materials.

All incidents must be reported to your manager and Agriculture Victoria's Incident Control Centre.

WHAT ARE THE CLINICAL SIGNS OF AI IN BIRDS?

Avian Influenza is usually asymptomatic in wild birds but can cause severe illness in domestic bird species. Infected birds will experience fever and respiratory problems leading to death in a matter of hours or days.

Low Pathogenic Avian Influenza (LPAI)

The clinical signs of AI infection are variable and influenced greatly by the virulence of the viruses involved, the species affected, age, concurrent disease and the environment.

Clinical signs range from no apparent symptoms to mild or severe symptoms and may include:

- respiratory distress (can be confused with infectious laryngotracheitis)
- coughing, sneezing, or rasping respiration
- rapid drop in feed intake, water intake and egg production
- typical "sick bird" signs – ruffled feathers, depression, closed eyes
- death of small proportions of the chicken flocks ranging from 3-15%.

Highly Pathogenic Avian Influenza (HPAI)

HPAI should be considered as a possible cause if a high proportion of a flock or group of birds become ill very quickly – progressing from normal to severe illness or death within 24 to 48 hours.

Clinical signs may include:

- sudden death
- respiratory distress/breathing difficulties
- swelling and purple discoloration of the head, comb, wattles and neck
- coughing, sneezing, or rasping respiration
- rapid drop in feed intake, water intake and egg production
- typical "sick bird" signs – ruffled feathers, depression, closed eyes
- diarrhoea
- nervous signs (occasionally seen).

WHAT DO I DO IF I SUSPECT AI?

Avian Influenza is a notifiable exotic disease and any suspected or confirmed cases must be reported immediately to Agriculture Victoria on the **Emergency Animal Disease Watch Hotline on 1800 675 888** (24/7) or to your local Agriculture Victoria Animal Health and Welfare staff.

Poultry owners should be vigilant for signs of disease especially where multiple mortalities occur in poultry, or many birds are sick. Care should be taken to maintain poultry in isolation from wild birds.

WHAT IS THE RISK OF SPREADING THE VIRUS?

AI viruses are common in wild waterfowl throughout the world, for the most part cycling harmlessly in these well-adapted hosts.

Occasionally, exposure of wild water birds to domestic birds, especially poultry, or to their feed or water supply, can lead to the emergence of HPAI viruses, which quickly and rapidly kill the exposed domestic birds.

Nine outbreaks of HPAI have occurred on poultry farms in Australia between 1976 and 2021: in Victoria in 1976, 1985, 1992 and 2020; in Queensland in 1994; and in NSW in 1997, 2012 and 2013. On each occasion, the outbreaks were quickly detected and eradicated, and only a small number of farms were affected. Effective eradication measures ensured that Australia has remained free of HPAI.

However, annual migration of wild birds has the potential to continually introduce new subtypes of avian influenza to Australia's wild and free-living waterfowl. Hence, there is an ever-present need for sound biosecurity to prevent wild bird exposure to domestic poultry. Vigilance is needed to enable rapid response should an outbreak of LPAI or HPAI occur.

HOW CAN I REDUCE THE RISK OF EXPOSURE?

Appropriate use of Personal Protective Equipment (PPE) has proven to be highly effective against contracting illness.

Practice good hygiene principles when wearing PPE;

- avoid touching your mouth, eyes, and nose,
- cover any cuts or grazes with a water resistant dressing under PPE (i.e. band-aid),
- do not eat or drink whilst wearing PPE,
- ensure PPE is removed safely and in the correct sequence (seek guidance from the Site Supervisor),
- thoroughly wash hands and face after removing PPE & shower at the end of the shift before handling other animals.

PPE requirements will vary depending upon the level of risk associated with the task you have been assigned.

When working on properties and in-contact with potentially infected animals or materials;

- Waterproof footwear, i.e. gumboots
- Disposable overalls and gloves
- P2 facemask (minimum)
- Protective eyewear

When working on properties without contact with potentially infected animals or materials;

- Waterproof footwear, i.e. gumboots
- Disposable overalls and gloves

People working with poultry and/or responding to avian influenza outbreaks should have a current seasonal influenza vaccine at least two weeks prior to coming in contact with infected birds. This will not prevent infection with avian influenza but will reduce the risk of co-infection with human influenza ('flu') and genetic reassortment to produce new influenza viruses that may pose a threat to the wider community.

Advice from the Department of Health indicates that people with appropriate PPE generally do not require extra protection in the form of anti-viral medication.

People who are ill should be discouraged from entering a poultry house, a response location or processing facility.

Any additional recommendations or requirements will be provided by Agriculture Victoria based on a case-by-case assessment of the risk.

HOW CAN I REDUCE THE RISK OF SPREAD?

Good hygiene, appropriate use and decontamination of PPE and thoroughly washing/disinfecting yourself and any materials/vehicles before leaving an infected property will protect you from spreading the virus to other people or animals.

The usual sequence for decontaminating vehicles/equipment (including boots) is cleaning with a neutral pH detergent followed by disinfecting with 3% citric acid, observing a 15 minute contact time and then rinsing with water.

Refer to APVMA Permit No. 89609 <https://portal.apvma.gov.au/permits> for alternative options.

For personal decontamination - remove all visible gross contamination (mud, dirt) prior to entering the final decontamination exit point. At the final decontamination exit point thoroughly wash all 'exposed' skin surfaces with soap and water for at least 20 seconds. Dry the skin with a towel and then apply an alcohol-based hand sanitiser (60-80% alcohol) and rub between hands/forearms for 15 seconds.

All persons should limit their contact with birds for 48-72 hours and monitor their health for symptoms for 7 days after your last possible exposure.

It is recommended to shower and launder all clothing worn during your time on the infected property before engaging with other people or handling your own animals. Any additional recommendations will be provided by Agriculture Victoria on a case-by-case basis.

WHAT IS THE GOVERNMENT'S RESPONSE TO AI?

AI outbreaks require a rapid and effective emergency response to eradicate the disease and minimize the risk to other birds and people. Government agencies work closely with industry and poultry owners during this process. Compensation arrangements are available in declared emergencies to alleviate the financial burden of response activities, e.g. payment for birds or property that is destroyed as part of an eradication program.

Procedures generally include depopulation of infected and in-contact poultry, decontamination, strict quarantine and movement controls to prevent the spread of infection and tracing and surveillance to locate the extent of infection. Vaccination may be an option in some circumstances.

FURTHER INFORMATION

- AUSVETPLAN – Avian Influenza Response Strategy <https://animalhealthaustralia.com.au/ausvetplan/>
- Department of Health Victoria 'Avian Influenza (bird flu)' <https://www.health.vic.gov.au/infectious-diseases/avian-influenza-bird-flu>
- Agriculture Victoria – Avian Influenza (bird flu) <https://agriculture.vic.gov.au/biosecurity/animal-diseases/poultry-diseases/avian-influenza-bird-flu>

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