

Avian Influenza A(H5N1) or “Bird Flu”



Introduction

Avian influenza, commonly called “bird flu”, is a disease caused by one type of influenza virus, known as Type A. Avian influenza viruses typically spread among wild aquatic birds worldwide and can also infect domestic poultry and mammals. One subtype of avian influenza, a highly pathogenic avian influenza called A(H5N1), causes severe disease and mortality in domestic poultry, some species of wild birds (particularly water birds), and some species of mammals. This subtype is very contagious between birds.

Rarely, A(H5N1) can infect humans. Historically, most human infections have occurred after exposure to infected poultry or highly contaminated environments. There have been reports of possible limited human-to-human transmission, but there is no current evidence of ongoing and sustained transmission between people. However, it is very common for influenza viruses to change, and those changes could lead to increased infections in the human population, which is why it is important to monitor and control the spread of this disease. As public and occupational health and safety information can change, local public health authorities should be consulted for specific, regional guidance.

Symptoms of A(H5N1)

Humans

Some people infected with A(H5N1) may not develop any symptoms and others may only develop mild ones. However, some infections can lead to severe symptoms and even progress to death. Symptoms of A(H5N1) in people typically occur 1 to 5 days (and occasionally longer) after exposure to the virus.

Early symptoms of A(H5N1) infection in people can include cough, high fever (38°C or higher), shortness of breath, muscle aches, and headache. In severe cases, pneumonia, seizures, or a changed mental state can occur. Refer to [Avian Influenza A\(H5N1\): Symptoms and treatment](#) for additional information.

Any worker who develops symptoms within 10 days of their last [exposure](#) should contact their health care provider. Exposure could be from birds, other animals, or heavily contaminated environments suspected or confirmed to have A(H5N1). Additional reporting information can be found under [Reporting and Support](#).

Birds and Mammals

Signs of infection in birds can include coughing, sneezing, decreased egg production, lack of energy or movement, tremors or lack of coordination, swelling around the eyes or head, loss of appetite, and death. Signs of infection in mammals can include fever, conjunctivitis, lack of energy or movement, loss of appetite, difficulty breathing, neurological signs (e.g., tremors, seizures), and death. Some birds may not develop any signs of infection and may appear healthy. It is unknown if infections without signs of illness develop in mammals. Refer to [Fact Sheet - Avian Influenza](#) for additional information.

Sources of Exposure to A(H5N1) and Transmission to People

Infected birds shed avian influenza virus in their feces and body fluids, such as blood, mucus, and saliva. Occupationally acquired infections of A(H5N1), though rare, occur mostly after close contact with infected birds or highly contaminated environments. Routes of exposure include inhalation of the virus through droplets or dust, or touching a contaminated object that has the virus on it (e.g., feathers, bedding), and then touching the mouth, nose, or eyes.

Activities where workers may become exposed to A(H5N1) include:

- Handling poultry or wild birds (dead or alive), their feathers, fluids, or feces
- Handling mammals (dead or alive), especially those that eat wild birds (e.g., skunks, foxes, raccoons, some marine mammals) or are fed raw meat (e.g., domestic cats, farmed fur animals)
- Working in potentially highly contaminated environments (e.g., live bird or animal markets and poultry farms), especially those that are poorly ventilated and indoors
- Hunting, slaughtering, butchering, or consuming undercooked or raw meat and organs from wild birds and mammals

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- Caring for or working closely with infected humans (extremely rare)

Occupations that may have workplace A(H5N1) exposure include:

- Poultry farm owner or worker
- Small farm owner or worker
- Poultry processing plant worker
- Poultry culler (catching, bagging, transporting, or disposing of dead birds)
- Worker in live bird or animal market
- Dealer or trader of pet birds
- Chef working with live or recently killed domestic poultry or other potentially affected animals
- Veterinary worker
- Public health inspector
- Persons handling wild birds or other wildlife (e.g., wildlife officer, researcher, or rehabilitator)

Each workplace is unique, and the employer is required to take every reasonable precaution for the protection of workers. In workplaces where workers may have A(H5N1) exposure, a [risk assessment](#) must be conducted and appropriate control measures must be implemented. A risk checklist can help identify risks and suggested control measures.

Workplace Control Measures

After identifying the risks to workers, employers must implement the most appropriate control measures with consideration given to the [hierarchy of controls](#). A layered approach where multiple control measures are applied at the same time is recommended since a single control measure alone is not likely to be very effective.

The selected control measures must be based on the assessed risk to workers. Each workplace and even workers within the same workplace can have different risk levels. Refer to the [Guidance on human health issues related to avian influenza](#) page for additional information on risk categories.

When risk may be low (e.g., working with healthy poultry or animal populations when there is no known local A(H5N1) detection or outbreak), consider the following control measures:

- Whenever possible, always work outdoors or in well-ventilated environments
- Regularly wash hands with soap and water. If soap and water are not available, use hand sanitizer containing at least 60% alcohol
- Avoid touching the eyes, nose, or mouth with unwashed hands
- Do not consume food or drink or smoke in areas where animals are kept
- Wash and change all clothes and shower after work
- Stay home if feeling unwell
- Get vaccinated for seasonal influenza. Although it does not protect against avian influenza, it can prevent the spread of viruses between people and animals and reduce the risk of people becoming infected with both viruses at the same time

When risk may be high (e.g., culling infected birds, sampling and collecting dead birds and mammals, cleaning and disinfecting infected barns without proper personal protective equipment (PPE)), apply the above control measures and consider the following additional measures:

- Where possible, avoid direct contact with birds and mammals (particularly those that appear ill) and heavily contaminated environments
- Maximize indoor ventilation by increasing natural ventilation (e.g., open windows and doors if safe to do so) and ensuring ventilation equipment is properly maintained. Seek advice from a ventilation specialist on possible improvements (e.g., increasing air changes per hour, reducing or eliminating recirculated air, etc.)
- Use low pressure water (mist) to wet dust, feathers, fecal matter, etc. and allow them to settle (instead of being in the air) before cleaning

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- If contact with birds and mammals or heavily contaminated environments is unavoidable, wear the following PPE:
 - Impervious gloves (e.g., PVC, nitrile, or rubber)
 - Boots or disposable boot covers
 - Impervious coveralls (ideally disposable)
 - Safety glasses or a face shield; tight-fitting goggles should be worn if droplets, splashing liquids, or dust may be present (e.g., when using water to clean contaminated areas)
 - Suitable [mask](#) (preferably a fit-tested N95 respirator)
- Follow proper [procedures](#) for putting on and taking off PPE
- Clean and disinfect reusable [PPE](#) and safely discard disposable PPE (e.g., in sealed plastic bag)

Refer to the [Guidance on human health issues related to avian influenza](#) page for additional information on PPE.

Emergency Preparedness and Response Plan

An emergency preparedness and response plan is useful in workplaces where A(H5N1) infection is a plausible threat. A documented plan should outline how to prevent, detect, and respond to workers who become sick. It can be written in the form of a policy and procedure.

Workers who become sick should be encouraged to take time away from work (this can be supported by a sick leave policy), isolate from others, follow measures to reduce the spread of respiratory viruses, and seek medical attention. Individuals who continue to work while sick present a risk of transmission to other workers (person-to-person transmission of A(H5N1) is very rare but possible, and the risk may change if the virus changes). Additionally, sick workers may experience worsening symptoms and can present a hazard to others should they become impaired.

Call 911 for medical assistance if a worker develops life-threatening symptoms. Inform their emergency contact and report to applicable parties (e.g., external regulators, health and safety committee, local public health authorities, etc.).

Clean and disinfect areas, tools, equipment, etc. that may be contaminated. If the illness originated while at work, conduct an incident investigation to determine the cause and attempt to prevent recurrence.

Reporting and Support

Workers exposed to the A(H5N1) virus while working may become ill, experience lost work time, or require medical attention. Any workers experiencing illness, even mild symptoms, after exposure to suspected or confirmed sources of A(H5N1) should contact their employer and a health care professional or their local public health authority. Contacting the relevant public health authority will ensure timely reporting to the Public Health Agency of Canada and the initiation of an epidemiological investigation. Inform the [government department responsible for health and safety](#) and [workers' compensation board](#) if the reporting requirements for your jurisdiction have been met. Refer to [Guidance on human health issues related to avian influenza in Canada](#) for additional information.

Contact your veterinarian and relevant provincial or territorial animal health authority if you observe sick or dead poultry or other domestic birds and mammals (and there is reason to believe it was caused by avian influenza), as well as the Canadian Food Inspection Agency (domestic birds and mammals), or the Department of Fisheries and Oceans Canada (marine mammals).

Sick or dead wild birds or other wildlife should be reported to:

- [Regional avian influenza hotline](#)
- [Canadian Wildlife Health Cooperative](#) (non-governmental organization)

Being involved in an avian influenza outbreak response or becoming ill with avian influenza can have an impact on workers' mental health, such as physical and mental symptoms of increased stress, anxiety, and depression. Mental health resources and support should be provided to all workers, including access to an [employee assistance program](#), if available.

Refer to the following mental health information resources:

- [Mental health support: Get help](#) – Public Health Agency of Canada
- [Mental health and wellness](#) – Public Health Agency of Canada
- [Mental health](#) – Canadian Centre for Occupational Health and Safety

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