

AT A GLANCE

Highly Pathogenic Avian Influenza: Infection Prevention and Control Guidance for Veterinary Clinics

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Background

Avian influenza refers to subtypes of influenza A virus that primarily cause infections in avian species, including wild and domestic birds.^{1,2} Avian influenza viruses are classified as low pathogenic or highly pathogenic, depending on the severity of illness caused in infected chickens.^{2,3} Low pathogenic avian influenza (LPAI) viruses typically cause subclinical infection or mild respiratory signs while highly pathogenic avian influenza (HPAI) viruses cause more severe disease, including organ failure, and death.^{1,2} Wild waterfowl such as ducks, geese and swans, and shorebirds may be subclinical carriers of both LPAI and HPAI viruses.¹

Backyard poultry, pet birds with outdoor access, and mammals (including cats and dogs) that come into contact with infected wild or domestic birds are at increased risk of developing HPAI infections.⁴ HPAI can be transmitted through direct or indirect contact with the feces or respiratory secretions of sick or dead wildlife.⁴ Cats, dogs and other mammals may also be exposed to the virus through hunting, scavenging or consuming infected poultry or wild birds.⁴ HPAI (H5N1) has recently been detected in a domestic dog and several feral cats in Ontario, as well as in various wild mammal species, including foxes, raccoons and skunks.⁴ Although rare, transmission to humans is possible with high intensity exposure (e.g. direct handling of/exposure to infected animals or their environment without appropriate personal protective equipment).⁴

This document provides information on HPAI for veterinarians and veterinary technicians working in companion animal or mobile veterinary clinics.

Clinical Signs of HPAI

Veterinary clinics should establish a screening process to identify animals that are exhibiting signs of illness compatible with HPAI, and that may have had exposure to birds or wildlife infected with HPAI. Following exposure to the virus, clinical signs of illness in birds typically develop within 2-14 days.² Clinical signs of HPAI infection may vary between species. There is very limited information about the clinical course of infection in mammals. Some birds and mammals may be infected without showing any signs of illness.

Clinical signs of HPAI in birds (including wild birds, pet birds and backyard or commercial poultry) include:^{2,5}

- Decrease in food and/or water consumption
- Decrease in egg production
- Depression or quietness
- Diarrhea
- Breathing difficulties
- Swollen or congested wattles/combs
- Swelling of the skin under the eyes
- High mortality rate or sudden death

Clinical signs of HPAI in mammalian pets (e.g., dogs and cats) include:⁴

- Decrease in appetite
- Fever
- Lethargy
- Conjunctivitis
- Breathing difficulties
- Neurological signs (tremors, seizures)
- Sudden unexplained death

Infection Prevention and Control Recommendations

- Screen animals for clinical signs of illness compatible with HPAI, or for exposure to infected birds or wildlife, prior to the appointment (e.g., discuss with the pet owner when booking the appointment).
- Schedule appointments for animals at increased risk of HPAI infection at the end of the day.⁵
- If possible, examine animals with clinical signs of HPAI outside. If the animal must be brought into the clinic, take the pet directly into the examination room or isolation room upon arrival, avoiding contact with other people and animals in the building.⁵
- Where possible, increase ventilation within the examination room by opening exterior windows or using an air filtration device.
- Provide personal protective equipment (PPE) for all staff who may handle the animal.⁵ Recommended PPE includes a fit-tested, seal-checked N95 respirator, eye protection, gloves and gown.⁵ Staff should be trained on proper donning and doffing of PPE.
- Perform hand hygiene using an alcohol-based hand rub (70-90% alcohol) or, if hands are visibly soiled, using soap and water. Hand hygiene should be performed before donning gloves, after removing gloves and after any contact with the animal or objects in its environment.
- Clean and disinfect the examination room after the animal leaves, using a disinfectant with stated efficacy against avian influenza.^{5,6} Disinfect reusable medical equipment (e.g., rectal thermometer, stethoscope) using an appropriate disinfectant. Follow the manufacturer's instructions for use, including concentration and contact time.⁵
- If hospitalization is required, the animal should be isolated from all other animals (not just isolated from other animals of the same species).⁵
- If mobile veterinary services are provided, change PPE for each client/site visit.⁵ Do not visit any premises with domestic poultry on the same day after examining any patient at high risk for HPAI infection with compatible clinical signs.

Diagnosis of Infection

Avian influenza should be suspected in animals that present with compatible signs of illness, particularly in areas where known HPAI detections have occurred, or where animals have a high-risk exposure to potentially infected poultry, wild birds or wild mammals. Laboratory testing should be performed to confirm the presence of avian influenza virus. Active infection is typically diagnosed via isolation and identification of avian influenza virus from a tracheal or cloacal swab or fecal specimen (poultry), or through PCR testing from an oropharyngeal swab, nasal, cloacal or rectal swab (poultry, cats, dogs; as applicable).^{7,8}

Reporting of Bird or Animal Cases to Public Health

If a bird or other animal is confirmed to be infected with avian influenza or another novel influenza strain, the local Medical Officer of Health must be notified immediately.⁹ Laboratories in Ontario are obligated to report any such findings to both the local Medical Officer of Health and the Ontario Ministry of Agriculture, Food and Rural Affairs.⁹

Disease Prevention

Pet owners should be educated regarding measures that can be taken to minimize the risk of their pet(s) being exposed to avian influenza. Biosecurity and other preventative measures to minimize the risk of exposure include:

- Avoid feeding cats and dogs raw meat from poultry, or game birds.⁴
- Prevent cats and dogs from coming into contact with or scavenging potentially infected birds or their carcasses.⁴ This may include keeping cats indoors and ensuring dogs are kept on a leash when outside.⁴
- Keep backyard poultry and their feed or water away from wild birds.¹⁰ Clean up spilled feed and litter to avoid attracting wild birds, and store feed in sealed, waterproof containers.¹⁰
- Regularly clean backyard poultry enclosures, and feed and water containers.¹⁰
- Minimize contact between backyard poultry and other people or pets.¹⁰
- Notify a veterinarian if birds or other animals are suspected to be sick with avian influenza.¹⁰

Summary

Veterinarians should be aware of the potential for exposure of backyard poultry, as well as pets such as dogs and cats, to HPAI in Ontario and should be aware of the potential clinical signs associated with this disease, in the event that an animal presents with a compatible illness. Additionally, pet owners should be aware of actions that can be taken to minimize the risk of themselves or their pets being exposed to the virus.

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