

Avian Influenza Summary Guidance for Veterinarians



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BC Centre for Disease Control
An agency of the Provincial Health Services Authority

Agent	<ul style="list-style-type: none"> Type A influenza virus: RNA virus in family Orthomyxoviridae <ul style="list-style-type: none"> Hemagglutinating antigen (HA) and neuraminidase antigen (NA), are the basis for the serologic identity of the influenza viruses To date, 16 hemagglutinins (H1 to H16), and 9 neuraminidases (N1 to N9) have been found in viruses from birds Classified as low pathogenic avian influenza (LPAI) and highly pathogenic avian influenza (HPAI) based upon specific diagnostic and/or sequence criteria. Since 1955, all HPAI outbreaks have been attributed to subtypes H5 and H7
Susceptible species	<ul style="list-style-type: none"> Domestic and wild birds. Wild aquatic birds are the reservoir for avian influenza viruses Sporadically the virus can spill over to mammals such as humans, pigs, mink, marine mammals, foxes, skunks, cats, dogs
Occurrence in BC and the world	<ul style="list-style-type: none"> Occurs worldwide; different strains are more prevalent in certain areas Beginning in 2020 there is a widespread global outbreak of H5N1 avian influenza in poultry, wild birds, and occasional mammalian cases Outbreaks of notifiable influenza detected in BC poultry in 2004, 2005, 2009, 2014-2015, 2022-2023 11 human cases globally have been detected in the current H5N1 outbreak (2020 to present)
Transmission	<ul style="list-style-type: none"> Within farm: transmission occurs via direct and indirect routes: <ul style="list-style-type: none"> <u>Direct</u>: via secretions/excretions from infected birds, such as feces <u>Indirect</u>: via contaminated items such as feed, water, equipment, clothing Between farms: movement of live birds (domestic & wild), people, equipment and vehicular traffic
Diagnosis Clinical Laboratory	<p>Incubation period in birds: 2-7 days</p> <p><u>LPAI</u>: Subclinical or mild infection. Decreased egg production and quality, respiratory signs, lethargy, decreased feed and water consumption, or somewhat increased flock mortality rates may be seen in chickens and turkeys</p> <p><u>HPAI</u>: High mortality with non specific systemic, respiratory and/or neurological signs, sudden death in chickens and turkeys. Variable severity in other birds</p> <p>Differential diagnoses for HPAI: Newcastle disease, infectious laryngotracheitis, duck plague, acute poisonings, sudden death associated with husbandry issues (eg ventilation, temperature etc)</p> <p>Virus isolation from oropharyngeal, tracheal and/or cloacal swabs or organ samples. Detection from real-time RT-PCR.</p>
Prevention in poultry	<ul style="list-style-type: none"> Enforcing strict biosecurity measures on poultry farms, preventing contact with wild birds CFIA surveillance program for H5 and H7 strains of avian influenza
Zoonotic implications	<ul style="list-style-type: none"> Human infection is rare and should be avoided to minimize the risk of viral reassortment leading to emergence of a new pandemic strain Most cases have direct contact with infected poultry
Reporting	<ul style="list-style-type: none"> H5 and H7 avian influenza are reportable diseases to BC's Chief Veterinarian <ul style="list-style-type: none"> All <u>suspect or confirmed</u> cases should be reported within 24 hours to Chief.Veterinarian@gov.bc.ca Veterinarians may be contacted by public health authorities for follow-up H5 and H7 avian influenza is a reportable disease to the CFIA: <ul style="list-style-type: none"> Veterinarians must immediately report <u>suspect and confirmed</u> cases to a CFIA district veterinarian