

AVIAN INFLUENZA HUMAN EXPOSURE & BIOCONTAINMENT PREVENTION

A guideline for the use of personal protection

(Manitoba Avian Influenza Operational Working Group - February/07)

Purpose

The purpose of this document is to provide guidance to those people who will be responding to potential Avian Influenza situations. This document will provide information for the differentiation of high exposure risk situations from lower ones. In a work environment it is the **employer's** responsibility to ensure that a risk assessment is done and that workers are sufficiently trained and protected in order to avoid exposure. At the time of a potential outbreak exposure, an assessment will be carried out by health officials concerning the use of other preventative measures including antiviral drugs.

A guideline for the appropriate level of personal protective equipment related to the risk will be outlined. For all respiratory protection, fit testing is a requirement.

Transmission and Absorption

Avian influenza does not usually infect humans nor are humans a reservoir of the virus.

Transmission to humans may occur by direct contact with infected poultry or wild birds and/or its immediate environment. It may also occur elsewhere by contact with undercooked infected poultry or wild bird products. Properly cooked poultry products are safe to consume.

Exposure to the virus in humans is by contact with large infectious droplets. Absorption occurs through the respiratory tract or other mucous membranes such as the mouth or eyes. Ingestion may be another route of absorption.

Domestic flocks are at risk of becoming infected by mixing with infected wild birds.

Potential Source of Exposure:

- 1) Infected birds: (wild, commercial - birds raised for the purpose of selling their products and non-commercial - domestic birds kept as pets, show birds and rare breeds)
- 2) Contaminated Environment:
 - i) manure and litter from infected birds
 - ii) contaminated surfaces B vehicles, equipment, clothing, footwear
 - iii) confinement barn housing infected birds B surfaces, dust, air exhaust outlets

The risk of significant exposure depends on:

- 1) The presence and concentration of Notifiable Avian Influenza (NAI) virus circulating in a given site.

- 2) The nature of the human / bird interaction - e.g. high risk activity - catching sick birds vs. the minimal risk activity of hunting wild (healthy) birds.
- 3) The nature of the environment - e.g. enclosed buildings, adequacy of the ventilation system, extent and quality of the housekeeping (dust, manure, etc.).

High Risk activities and situations would include:

- 1) Direct contact with infected birds in a NAI outbreak control event: e.g. handling, euthanizing, disposing of infected or contaminated birds, and/or
- 2) Cleaning up and disinfecting the contaminated site and equipment

In workplaces where either:

- a) NAI infected birds have been found (and the premises has not yet been declared cleaned and disinfected by the Canadian Food Inspection agency (CFIA)); OR
- b) That are of unknown NAI infection status but that are considered by the CFIA to be high risk direct contacts of known positives; OR
- c) That are of unknown NAI infection status and that lie within a CFIA Infected Zone (within 3km of known NAI infected birds or premises), and have not yet been tested by the CFIA.

Actions:

Specific Infection Control Measures B Refer to Appendix #1 of this document for a guide to Personal Protective Equipment (PPE)

Moderate Risk activities and situations:

- 1) Direct contact with live or dead birds, their feces, feathers, or bedding, and/or
- 2) The cleaning and disinfection of contaminated surfaces or equipment in workplaces that:
 - a) Lie within a CFIA Restricted Zone (i.e. between 3 km and 10 km of known NAI infected birds or premises) and where the NAI infection status of the birds in the workplace is unknown,
- 3) Direct contact with wild birds where the risk assessment indicates a possible risk of exposure to NAI B e.g. bird surveys/sampling where there is some evidence illness/death in the birds being sampled.

Actions:

Specific Infection Control Measures B Refer to Appendix #1 of this document for a guide to Personal Protective Equipment (PPE)

Low Risk activities and situations:

- 1) Direct contact and handling of apparently healthy birds of unknown NAI status, carcasses resulting from normal mortality, feces, feathers, and bedding.
- 2) Trades people (electricians, plumbers, etc) servicing poultry barns.

In workplaces that either:

- a) Are at locations within the CFIA NAI “Control Area”, but beyond the CFIA “Restricted Zone” (i.e. greater than 10 km from a location of known NAI infected birds), OR
 - b) Are at locations within a CFIA NAI “Infected Zone” (within 3 km of the NIA infected birds or premises) or “Restricted Zone” (less than 10 km from known NAI infected birds or premises), and that have been tested and declared negative for NAI by the CFIA (i.e. have a known NAI test-negative status), and remain free of signs indicative of NAI.
- 3) Direct contact with wild birds where the risk assessment indicates a low risk of exposure to NAI B e.g. bird surveys/sampling where there is no indication of increased mortality.
 - 4) Direct contact with processing facilities for healthy domestic birds.
 - 5) Direct Contact with other wild or domestic bird processing.

Actions:

Specific Infection Control Measures B Refer to Appendix #1 of this document for a guide to Personal Protective Equipment (PPE)

Minimal Risk activities and situations:

- 1) People residing in a CFIA NAI “control zone” that have no direct contact with wild or domestic birds.
- 2) Trades people (electricians, plumbers ect) servicing residential or non-poultry commercial enterprises within a CFIA NAI “control zone”.
- 3) First Nations / Inuit traditional hunting activities.
- 4) Hunting / guiding activities.
- 5) People with no direct contact with wild or domestic birds B e.g. general public places: zoo, wildlife sanctuary, city retention pond area, park where wild birds may gather.

Actions:

Specific Infection Control Measures B Refer to Appendix #1 of this document for a guide to Personal Protective Equipment (PPE)

General Infection Control Measures

- Avoid hand to mouth/face contact when handling contaminated materials.
- wash hands frequently with soap and water, especially if hands are soiled: 15 B 20 sec. minimum time.
- Alcohol based hand sanitizer is adequate for those situations where there is no visible soiling and soap & water is not available.

- Store contaminated/soiled clothing safely (e.g. plastic bag) and wash hands as soon as possible after use. Laundry of contaminated/soiled clothing in hot water and detergent is sufficient.
- In any high risk activity situation, Canadian Food Inspection Agency will control all contaminated clothing and personal protective equipment.

APPENDIX #1 – GUIDE TO PERSONAL PROTECTIVE EQUIPMENT & PROCEDURES

	Hygiene Precautions	Hand Protection	Respiratory protection	Eye Protection	Protective Clothing	Foot Protection
Minimal Risk Activities	See low risk activities	N/A	N/A	N/A	N/A	N/A
Low Risk Activities (Routine Practices)	Hand washing is recommended. Use soap and water, lathering for at least 30 seconds, then rinsing, or use alcohol-based hand sanitizers if hands are not visibly soiled. Alternatively, if hands are soiled and running water is not available, a moist towelette can be used to remove visible soil, followed by application of an alcohol based hand sanitizer. No eating, drinking, or smoking where there is risk of contamination. Clean then disinfect equipment and work surfaces before leaving workplace where appropriate. Touching or washing (if needed) face only after hand hygiene has been performed	Routine industry precautions	Respiratory protection is not normally recommended unless there is a risk of generating significant aerosols or airborne particulate. NIOSH-approved disposable N95 particulate respirators for operations that generate dusts or aerosols. Higher levels of protection may be needed to address other inhalation hazards in the workplace: Although the minimum recommendation is a NIOSH-approved particulate respirator for operations that generate dusts or aerosols, a powered air-purifying respirator (PAPR) may be the preferred level of protection under various conditions.	Safety glasses or face shield may be recommended while handling birds.	Separate work clothes are recommended. Impervious aprons may be recommended for some activities.	Separate foot wear is recommended. Boot covers or rubber boots may be recommended for some activities
Moderate Risk Activities (Additional Precautions)	As above	Disposable latex or nitrile gloves or reusable heavy duty rubber gloves that can be cleaned and then disinfected.	NIOSH-approved disposable N95 particulate respirators for operations that generate dusts or aerosols. As above concerning PAPR	Tight-fitting goggles are recommended to prevent contact between conjunctiva and potentially infectious airborne particulate.	Impervious coveralls with head coverings and preferably covered zippers and impervious aprons as needed particulate.	Boot covers or rubber boots that can be cleaned and then disinfected.
High Risk Activities (Additional Precautions)	As above In addition: Clean then disinfect equipment, vehicles, work surfaces, and clothing before leaving workplace. (under supervision of CFIA)	Disposable latex or nitrile gloves or reusable heavy duty rubber gloves that can be cleaned and then disinfected.	NIOSH-approved disposable N95 particulate respirators for all high risk activities. As above concerning PAPR	As above In addition: A full face respirator, if used, would provide eye protection and eliminate the need for goggles.	As above In addition: Covered zippers and taping of wrist cuffs are recommended.	As above In addition: Taping of ankle cuffs is recommended. Taping of boot covers is recommended to eliminate tripping hazard