

Ontario Public Health Standards:
Requirements for Programs, Services and Accountability

Infectious Disease Protocol

Appendix 1:

Case Definitions and Disease-Specific Information

Disease: Psittacosis/Ornithosis

Effective: May 2022

Psittacosis/Ornithosis

Communicable

Virulent

[Health Protection and Promotion Act \(HPPA\)](#)

[Ontario Regulation \(O. Reg.\) 135/18 \(Designation of Diseases\)](#)

Provincial Reporting Requirements

Confirmed case

Probable case

As per Requirement #3 of the "Reporting of Infectious Diseases" section of the *Infectious Diseases Protocol, 2018* (or as current), the minimum data elements to be reported for each case are specified in the following:

- [O. Reg. 569](#) (Reports) under the HPPA;⁴
- The iPHIS User Guides published by Public Health Ontario (PHO); and
- Bulletins and directives issued by PHO.

Type of Surveillance

Case-by-case

Case Definition

Confirmed Case

Laboratory confirmation of infection with clinically compatible signs and symptoms:

- A significant (i.e., fourfold or greater) rise in antibodies to *Chlamydia* (formerly *Chlamydophila*) *psittaci* (*C. psittaci*)

OR

- Isolation of the infectious agent from a clinical specimen (e.g., blood, sputum)

OR

- Positive for nucleic acid amplification testing (NAAT) for *C. psittaci* specific targets

Probable Case

Clinically compatible signs and symptoms in a person with:

- An epidemiologic link to a known source (i.e., human, animal or environment)

OR

- Supportive serology (e.g., *C. psittaci* titre of ≥ 32) with one or more serum specimens obtained after onset of symptoms

Outbreak Case Definition

The outbreak case definition varies with the outbreak under investigation. Please refer to the *Infectious Diseases Protocol, 2018* (or as current) for guidance in developing an outbreak case definition as needed.

The outbreak case definitions are established to reflect the disease and circumstances of the outbreak under investigation. The outbreak case definitions should be developed for each individual outbreak based on its characteristics, reviewed during the course of the outbreak, and modified if necessary, to ensure that the majority of cases are captured by the definition. The case definitions should be created in consideration of the outbreak definitions.

Outbreak cases may be classified by levels of probability (i.e., confirmed and/or probable).

An outbreak is defined as two or more cases linked in place and time.

Clinical Information

Clinical Evidence

Mild forms may be mistaken for common respiratory illnesses. The disease can have a sudden onset with fever, chills, sweating, myalgia, loss of appetite, upper or lower respiratory tract symptoms, non-productive cough, and headaches. Human disease can be severe, especially in untreated elderly persons.

Clinical Presentation

Onset of psittacosis is usually abrupt with fever, headache, photophobia, myalgia, upper or lower respiratory tract symptoms, and non-productive cough. Respiratory symptoms are often mild when compared with pneumonia demonstrable on thoracic radiographs. Complications can occur occasionally and include encephalitis, myocarditis and thrombophlebitis.^{1,2} Mild forms of the illness may be mistaken for common respiratory infection and may go unnoticed or undiagnosed.³

Laboratory Evidence

Laboratory Confirmation

Any of the following will constitute a confirmed case of psittacosis/ornithosis:

- Isolation of infectious agent from clinical specimen [This should be done in a Containment level 3 facility, *C. psittaci* being a risk level 3 agent in Canada.]
- A significant (i.e., fourfold or greater) rise in antibody response towards *C. psittaci* with specimen collection \geq 2-3 weeks apart.
- Positive for NAAT for *C. psittaci* specific targets

Approved/Validated Tests

- Microimmunofluorescence (MIF) assay for serologic response to *C. psittaci*, with positive and negative control sera used with each run and other quality indices as described by Dowell *et al.*
- NAAT for *C. psittaci* specific targets

Indications and Limitations

- Chronic *C. psittaci* human infection has been found to be associated with ocular adnexal mucosa-associated lymphoid tissue [MALT]-type lymphoma in some instances
- A commercial kit for MIF testing (Cypress Ca) contains antigens for *C. pneumoniae*, *C. psittaci* and *C. trachomatis*. However, cross reactivity among closely related agents using MIF test procedures have been observed; the

sensitivity and specificity of the MIF for diagnosis of psittacosis specifically is not well evaluated and so interpretation of titre must be linked with symptoms and / or linkage with definitive cases (see also recent publication by Verminnen *et al.*).

- In-house NAAT testing should be done using standard controls

For further information about human diagnostic testing, contact the [Public Health Ontario Laboratories](#).

Case Management

In addition to the requirements set out in the Requirement #2 of the "Management of Infectious Diseases – Sporadic Cases" and "Investigation and Management of Infectious Diseases Outbreaks" sections of the *Infectious Diseases Protocol, 2018* (or as current), the board of health shall investigate cases to determine the source of infection. Refer to Provincial Reporting Requirements above for relevant data to be collected during case investigation.

Additional disease-specific information that may be collected includes:

- History of occupational exposure, and
- History of exposure to birds belonging to the parrot family, other caged birds, or on poultry farms, as well as contact with bird droppings.

Isolation of case is not required. The case should be instructed on using proper hand hygiene and proper cough etiquette.² Treatment with antibiotics is under the direction of the attending health care provider.

Identify others that may have had the same exposure. If an avian source of infection has been identified, notify the Ministry of Health (ministry) and trace the origin of the suspected birds in collaboration with the ministry, and the Canadian Food Inspection Agency (CFIA), or the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA), as appropriate. Infected birds should be quarantined and placed under the care of a veterinarian.

Contact Management

No public health follow-up required of contacts of human cases. However, individuals exposed to common sources of infection should be educated about symptoms of concern (e.g., fever, respiratory tract symptoms, and coughing) and the actions they should take should symptoms develop, stressing the need for immediate clinical assessment noting the linkage to a psittacosis case. Early diagnostic tests should be performed and therapy should be initiated if symptoms appear.

Outbreak Management

Please see the *Infectious Diseases Protocol, 2018* (or as current) for the public health management of outbreaks or clusters in order to identify the source of illness, manage the outbreak and limit secondary spread.

An outbreak is defined as two or more cases linked in place and time.

Refer to the [Management of Avian Chlamydiosis in Birds Guideline, 2018](#) (or as current) for the management of outbreaks in birds.

Prevention and Control Measures

Personal Prevention Measures

Preventive measures:

- Education of the public about the risk of household or occupational exposure to infected pet birds;²
- Use of cage cleaning and feeding methods that minimize air circulation of feathers, dust and droppings;¹
- Wear gloves and dust masks when cleaning cages and birdfeeders;¹
- Treatment and elimination of infections of pet birds;² and
- Disinfection of contaminated premises.²

Infection Prevention and Control Strategies

Refer to [PHO's website](#) to search for the most up-to-date information on Infection Prevention and Control (IPAC).

Disease Characteristics

Aetiologic Agent - Psittacosis/Ornithosis is caused by *Chlamydia psittaci* (formerly *Chlamydophila psittaci*), an obligate intracellular bacterial pathogen.¹

Modes of Transmission - Infection is generally acquired by inhaling dust from dried feces or dried ocular and nasal secretions from infected birds. Handling of plumage or dust from feathers of infected birds are also modes of exposure.^{1,2} Direct contact with birds is not required; rare person-to-person spread has occurred.²

Incubation Period – From 1- 4 weeks.²

Period of Communicability - Birds may shed the agent intermittently, and sometimes continuously, for weeks or months.²

Reservoir - This agent can be carried by many species of wild and domestic birds. Most human cases have been caused by transmission of disease from psittacine birds such as parakeets, parrots and lovebirds and less often from poultry, pigeons, canaries and sea birds. Healthy birds can be carriers and shed the infectious agent, particularly when subjected to stress through crowding and shipping.²

Host Susceptibility and Resistance - Susceptibility is general; persons in contact with infected birds are at highest risk and older adults may be more severely affected.² There is no evidence that persons with antibodies are protected, as post infective immunity is incomplete or transitory.²

Please refer to [PHO's Reportable Disease Trends in Ontario reporting tool](#) for the most up-to-date information on infectious disease trends in Ontario.

For additional national and international epidemiological information, please refer to the Public Health Agency of Canada and the World Health Organization.

References

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3. Acha P, Szyfres B. Zoonoses and Communicable Diseases Common to Man and Animals. Vol. 2. 3 ed. Washington, DC: Pan American Health Organization; 2003.
4. Health Protection and Promotion Act, R.S.O. 1990, Reg. 569, Reports, (2018). Available from: <https://www.ontario.ca/laws/regulation/900569>

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Document History

Revision Date	Document Section	Description of Revisions
April 2022	Entire Document	New template. Appendix A and B merged. No material content changes.
April 2022	Epidemiology: Occurrence section	Removed.
April 2022	ICD Codes	Removed.