

Appendix A: Disease-Specific Chapters

Chapter: Psittacosis/Ornithosis

Effective: February 2019

Psittacosis/Ornithosis

Communicable

Virulent

**Health Protection and Promotion Act:
O. Reg. 135/18 (Designation of Diseases)**

1.0 Aetiologic Agent

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

2.0 Case Definition

2.1 Surveillance Case Definition

Refer to [Appendix B](#) for Case Definitions.

2.2 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.

3.0 Identification

3.1 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

3.2 Diagnosis

See [Appendix B](#) for diagnostic criteria relevant to the Case Definitions.

For further information about human diagnostic testing, contact the Public Health Ontario Laboratories or refer to the Public Health Ontario Laboratory Services webpage: <http://www.publichealthontario.ca/en/ServicesAndTools/LaboratoryServices/Pages/default.aspx>

4.0 Epidemiology

4.1 Occurrence

Worldwide; most human cases are sporadic and many infections likely go undiagnosed. Outbreaks occasionally occur in households, pet shops, aviaries, avian exhibits, and pigeon lofts.² One human case of psittacosis was reported in Ontario in 2011. This was the first case reported in the province since 2004.

C. psittaci is found in both domestic and wild birds in Ontario. A significant outbreak of severe avian chlamydiosis (disease occurring in birds due to *C. psittaci* infection) occurred within a large private aviary in Ontario in 2009, affecting multiple species of pet birds – the outbreak was caused by the introduction of two infected parrots from British Columbia into the aviary. Since 2009, two other outbreaks of avian chlamydiosis have been identified in commercial aviary settings in Ontario, including one involving an aviary business which was selling pet birds on Kijiji.

Please refer to Public Health Ontario's (PHO) Reportable Disease Trends in Ontario reporting tool and other reports for the most up-to-date information on infectious disease trends in Ontario.

<http://www.publichealthontario.ca/en/DataAndAnalytics/Pages/DataReports.aspx>

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

4.2 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

4.3 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

4.4 Incubation Period

From 1- 4 weeks.²

4.5 Period of Communicability

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

4.6 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

5.0 Reporting Requirements

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:

- *Ontario Regulation 569* (Reports) under the *Health Protection and Promotion Act* (HPPA);⁴
- The iPHIS User Guides published by PHO; and
- Bulletins and directives issued by PHO.

6.0 Prevention and Control Measures

6.1 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

6.2 Infection Prevention and Control Strategies

Refer to PHO’s website at www.publichealthontario.ca to search for the most up-to-date information on Infection Prevention and Control, including Routine Practices and Additional Practices in All Health Care Settings (2012, or as current).

6.3 Management of Cases

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 Section 5: 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 and Long-Term Care (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.

6.4 Management of Contacts

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.

6.5 Management of Outbreaks

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.

7.0 References

1. Committee on Infectious Diseases, American Academy of Pediatrics. Section 3: Summaries of Infectious Diseases: *Chlamydia psittaci*. In: Kimberlin DW, Brady MT, Jackson MA, Long SS, editors. Red Book: 2018 Report of the Committee on Infectious Diseases. 31 ed. Itasca, IL: American Academy of Pediatrics; 2018.
2. Heymann DL, editor. Control of Communicable Diseases Manual. 20 ed. Washington, D.C: American Public Health Association; 2015.
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>

8.0 Document History

Table 1: History of Revisions

Revision Date	Document Section	Description of Revisions
December 2014	General	New template. Title of Section 4.6 changed from “Susceptibility and Resistance” to “Host Susceptibility and Resistance”. Title of Section 5.2 changed from “To Public Health Division (PHD)” to “To the Ministry of Health and Long-Term Care (the ministry) or Public Health Ontario (PHO), as specified by the ministry”. Section 9.0 Document History added.
December 2014	2.2 Outbreak Case Definition	Entire section revised.
December 2014	3.1 Clinical Presentation	Addition of “or undiagnosed”.
December 2014	3.2 Diagnosis	Entire section revised.
December 2014	4.1 Occurrence	Entire section revised.

Revision Date	Document Section	Description of Revisions
December 2014	4.2 Reservoir	“caused by psittacine birds” changed to “caused by transmission of disease from psittacine birds”.
December 2014	5.1 To Local Board of Health	Entire section revised.
December 2014	5.2 To the Ministry of Health and Long-Term Care (the ministry) or Public Health Ontario (PHO), as specified by the ministry	Entire section revised.
December 2014	6.2 Infection Prevention and Control Strategies	Entire section revised.
December 2014	6.3 Management of Cases	Entire section revised.
December 2014	6.4 Management of Contacts	Entire section revised.
December 2014	6.5 Management of Outbreaks	“this protocol” changed to “the <i>Infectious Disease Protocol</i> , 2008 (or as current)”.
December 2014	7.0 References	Updated.
December 2014	8.0 Additional Resources	Updated.
February 2019	General	<p>Minor revisions were made to support the regulation change to Diseases of Public Health Significance. Common text included in all Disease Specific chapters: Surveillance Case Definition, Outbreak Case Definition, Diagnosis, Reporting Requirements, Management of Cases, and Management of Outbreaks. The epidemiology section and references were updated and Section 8.0 Additional Resources was deleted.</p> <p><i>Management of Avian Chlamydiosis in Birds Guideline, 2018</i> (or as current) was also included.</p>

Revision Date	Document Section	Description of Revisions
February 2019	3.1 Clinical Presentation	Second sentence added: "Respiratory symptoms are often mild when compared with pneumonia demonstrable on thoracic radiographs."
February 2019	4.3 Modes of Transmission	Second sentence added: "Handling of plumage or dust from feathers of infected birds are also modes of exposure."

