

Appendix A: Disease-Specific Chapters

Chapter: *Chlamydia trachomatis* infections

Effective: February 2019

***Chlamydia trachomatis* infections**

Communicable

Virulent

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

1.0 Aetiologic Agent

Chlamydia trachomatis is an obligate intracellular bacterium causing genital infections and other forms of infections including chlamydial conjunctivitis and pneumonia.^{1,2}

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).

3.0 Identification

3.1 Clinical Presentation

Chlamydia can be asymptomatic and may include pharyngeal and rectal infections. Individuals with rectal infections often experience rectal discharge and pain.¹

Males may present with urethral discharge, dysuria and frequency, non-specific urethral symptoms such as redness, itching, and swelling.^{1,3}

Females may present with cervical infection that includes the following signs and symptoms: a mucopurulent endocervical discharge with edema, dysuria, dyspareunia, erythema and easily induced endocervical bleeding.^{1,4}

Complications and sequelae include salpingitis pelvic inflammatory disease with subsequent risk of infertility. Salpingitis and pelvic inflammatory disease can also be symptoms of chlamydia requiring treatment.^{1,4}

Can present as chlamydial pneumonia and conjunctivitis (Ophthalmia neonatorum) in infants.^{1,4} For more information regarding chlamydial conjunctivitis in infants, please refer to the Disease-Specific Chapter for Ophthalmia neonatorum.

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

In Ontario, chlamydia is the most commonly reported sexually transmitted infection (STI). Between 2013 and 2017, an average of 39,227 chlamydia cases were reported each year.* The rate of chlamydia has increased by 28.4% in the past five years and is higher among females. Reported rates are highest among youth and young adults aged 15 to 24 years.

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

Humans.¹

4.3 Modes of Transmission

Sexual contact via oral, vaginal, cervical, urethral or anal routes; in children, exposure to infected genitals (consider the possibility of sexual abuse in these cases); newborns: during delivery from infected mother.^{1,4}

* Data included in the epidemiological summary are from January 1, 2013 to December 31, 2017. Data were extracted from Query on February 7, 2018 and therefore are considered preliminary.

Risk factors for transmission include:⁴

- Sexual contact with a chlamydia-infected person.
- A new sexual partner or multiple partners in the past year.
- Previous STIs.
- Vulnerable populations (e.g., people who use injection drugs, incarcerated individuals, sex trade workers, street-involved youth etc.)

4.4 Incubation Period

From time of exposure to onset of symptoms is two to three weeks, but can be as long as six weeks.⁴

4.5 Period of Communicability

Unknown; may extend for months or longer if untreated, especially in asymptomatic persons; re-infections are common; effective treatment limits infectivity.¹ Individuals should abstain from unprotected sexual activity until treatment is complete (i.e., after completion of a multiple-dose treatment or for seven days after single-dose therapy).⁴

Re-infection is common (e.g. after 28 days). For surveillance purposes, if the four factors noted in the Provincial Case Definition for Chlamydia are met, health units may consider 28 days for re-infection.

4.6 Host Susceptibility and Resistance

General susceptibility.¹

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)*;⁵
- 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

A non-judgmental and culturally sensitive risk assessment should be part of a comprehensive approach to the prevention and early detection of STIs. Issues to explore include the following:

- The range and frequency of various sexual practices (i.e. unprotected sex), taking ethnocultural and sexual minority status, and gender identity into account;
- History of STIs, including HIV, with awareness of the stigma and discrimination that come with these infections;
- History of injection drug use;
- Suboptimal screening in pregnant women.

Preventive measures include education about safer sex practices including use of condoms and early detection of infection by screening those at risk.⁴

Screening should be offered to those at-risk as per *the Sexual Health and Sexually Transmitted/Blood-Borne Infections Prevention and Control Protocol, 2018* (or as current).⁶

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.

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.

Case management should also consider the PIDAC Sexually Transmitted Infections Case Management and Contact Tracing Best Practice Recommendations (2009, or as current).⁷

Treatment determined as per attending health care provider; refer to the *Sexual Health and Sexually Transmitted/Blood-Borne Infections Prevention and Control Protocol, 2018* (or as current) for a list of publicly funded STI medications, and the Canadian Guidelines on Sexually Transmitted Infections (2018, or as current), for treatment recommendations <https://www.canada.ca/en/public-health/services/infectious-diseases/sexual-health-sexually-transmitted-infections/canadian-guidelines/sexually-transmitted-infections.html>.^{6,4}

6.4 Management of Contacts

To help prevent (re)infection, partners need to be assessed, tested, treated, and counselled appropriately. Cases and contacts should abstain from unprotected sex until treatment of both partners is complete (i.e., after completion of a multiple-dose treatment or for seven days after single-dose therapy).⁴

For contact management of cases refer to the *Sexual Health and Sexually Transmitted/Blood-Borne Infections Prevention and Control Protocol, 2018* (or as

current).⁶ For additional guidance on contact management refer to PIDAC Sexually Transmitted Infections Case Management and Contact Tracing Best Practice Recommendations (2009, or as current) and the Canadian Guidelines on Sexually Transmitted Infections (2018, or as current).^{7,4}

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.

7.0 References

1. Heymann DL, editor. *Control of Communicable Diseases Manual*. 20 ed. Washington, D.C: American Public Health Association; 2015.
2. Committee on Infectious Diseases, American Academy of Pediatrics. Section 3: Summaries of Infectious Diseases: Chlamydial Infections. 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.
3. Canadian AIDS Society. *HIV Transmission: Guidelines for Assessing Risk*, 5 ed. Ottawa, ON: Canadian AIDS Society; 2004. Available from: <http://www.cdnaids.ca/hiv-transmission-guidelines-for-assessing-risk/>
4. Public Health Agency of Canada. *Canadian Guidelines on Sexually Transmitted Infections* [Internet]. Ottawa, ON: Her Majesty the Queen in Right of Canada; 2018 [cited May 15, 2018]. Available from: <https://www.canada.ca/en/public-health/services/infectious-diseases/sexual-health-sexually-transmitted-infections/canadian-guidelines/sexually-transmitted-infections.html>
5. Health Protection and Promotion Act, R.S.O. 1990, Reg. 569, Reports, (2018). Available from: <https://www.ontario.ca/laws/regulation/900569>
6. Ontario, Ministry of Health and Long-Term Care. *Sexual Health and Sexually Transmitted/ Blood-Borne Infections Prevention and Control Protocol*, 2018. Toronto, ON: Queen's Printer for Ontario; 2018. Available from: http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/protocolsguidelines.aspx
7. Ontario, Ministry of Health and Long-Term Care, Provincial Infectious Diseases Advisory Committee. *Sexually Transmitted Infections Case Management and Contact Tracing Best Practice Recommendations*. Toronto, ON: Queen's Printer for Ontario; 2009. Available from: http://www.publichealthontario.ca/en/BrowseByTopic/InfectiousDiseases/PIDAC/Pages/PIDAC_Documents.aspx

8.0 Document History

Table 1: History of Revisions

Revision Date	Document Section	Description of Revisions
January 2014	General	<p>New template.</p> <p>Title of Section 3.6 changed from “Susceptibility and Resistance” to “Host Susceptibility and Resistance”</p> <p>Title of Section 4.2 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”</p> <p>Section 8.0 Document History added.</p>
January 2014	1.2 Outbreak Case Definition	Entire section revised.
January 2014	2.1 Clinical Presentation	<p>First paragraph changed from “Chlamydia infection is frequently asymptomatic.” to “Chlamydia infection is often asymptomatic including pharyngeal and rectal infections. If symptoms are present in rectal infections individuals often display rectal discharge and pain.”</p> <p>Addition of fourth paragraph “Complications...”</p> <p>Final paragraph changed from “Can present as Chlamydia pneumonia in infants.” to “Can present as chlamydial pneumonia and conjunctivitis (Ophthalmia neonatorum) in infants. For more information regarding chlamydial conjunctivitis in infants, please refer to the Ophthalmia neonatorum Disease-Specific Chapter.”</p>
January 2014	2.2 Diagnosis	<p>Addition of the second paragraph: “For further information...”</p>

Revision Date	Document Section	Description of Revisions
January 2014	3.1 Occurrence	<p>First paragraph changed from “Common worldwide; high rates of infection among sexually active persons.” to “Common worldwide.”</p> <p>Second paragraph changed from “In Ontario, Chlamydia is the most commonly reported STI. The rate of Chlamydia is higher among females, and has been rising. Reported rates are highest among youth and young adults aged 15 to 24 years.” to “In Ontario, chlamydia is the most commonly reported sexually transmitted infection (STI). Between 2007 and 2011, an average of 29,632 chlamydia cases was reported each year. The rate of chlamydia is higher among females, and has been rising up to the end of 2012. Reported rates are highest among youth and young adults aged 15 to 24 years.”</p> <p>Addition of third paragraph “For more information...”</p>
January 2014	3.4 Incubation Period	First sentence changed from “...onset of infection...” to “...onset of symptoms...”
January 2014	3.5 Period of Communicability	<p>First paragraph, addition of second sentence “If receiving...”</p> <p>Addition of second paragraph “Re-infection is common...”</p>
January 2014	3.6 Host Susceptibility and Resistance	First and second paragraph replaced with “General susceptibility.”
January 2014	5.2 Infection Prevention and Control Strategies	Entire section revised.

Revision Date	Document Section	Description of Revisions
January 2014	5.3 Management of Cases	<p>First two paragraphs were deleted: “Refer to Ontario Regulation 569 for relevant data to collect and ensure to inquire about the following: history of exposure; contact history and assess for risk factors” and “Provide education about and promote safer sex practices and advise about the need to test for HIV infection and other STIs if indicated (2).”</p> <p>Reference to “PIDAC Sexually Transmitted Infections Case Management and Contact Tracing Best Practice Recommendations” added.</p> <p>Final paragraph changed from “Treatment determined as per attending health care provider; refer to the <i>Sexual Health and Sexually Transmitted Infections Prevention and Control Protocol, 2008</i> (or as current) for the following sections, and the Canadian Guidelines on Sexually Transmitted Infections, Public Health Agency of Canada, 2008 edition.” to “Treatment determined as per attending health care provider; refer to the <i>Sexual Health and Sexually Transmitted Infections Prevention and Control Protocol, 2008</i> (or as current) for a list of publicly funded STI medications, and the Canadian Guidelines on Sexually Transmitted Infections, 2008 edition (or as current),² for treatment recommendations.”</p>
January 2014	5.4 Management of Contacts	Entire section revised.
January 2014	5.5 Management of Outbreaks	Entire section revised.
January 2014	6.0 References	Updated.
January 2014	7.0 Additional Resources	Updated.

Revision Date	Document Section	Description of Revisions
February 2019	General	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.
February 2019	2.1 Clinical Presentation	Fourth paragraph, removed “Up to 70% of sexually active females with chlamydia infection are asymptomatic”.
February 2019	4.3 Modes of Transmission	Added “Risk factors for transmission include...”
February 2019	4.5 Period of Communicability	First paragraph revised.
February 2019	6.1 Personal Prevention Measures	Entire section revised.

