

Appendix A: Disease-Specific Chapters

Chapter: Gonorrhoea

Effective: February 2019

Gonorrhoea

Communicable

Virulent

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

1.0 Aetiologic Agent

Causative agent is the *Neisseria gonorrhoeae* (*N. gonorrhoeae*), a gram-negative diplococcus, commonly known as gonococcus.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).

3.0 Identification

3.1 Clinical Presentation

Many cases are asymptomatic.² If symptoms do occur, they usually appear two to seven days after infection.³

In males the most common presenting symptom is a painful purulent urethral discharge; dysuria and frequency as well as redness, itching and swelling of urethra.^{1,2}

Females present with initial urethritis or cervicitis, frequently mild which can go unnoticed; abnormal vaginal discharge and post-coital bleeding may occur and then the infection can progress to pelvic inflammatory disease.^{1,2}

Pharyngeal and rectal infections can occur among those engaging in oral and anal sex respectively.¹ Most rectal and pharyngeal gonococcal infections are asymptomatic,

however, if symptoms are present in rectal infections individuals often display rectal discharge and pain.^{1,2,6}

Can present as conjunctivitis (Ophthalmia neonatorum) in infants.¹ For more information regarding gonococcal 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, gonorrhea is a commonly reported sexually transmitted infection (STI). Rates of gonorrhea are higher among males compared to females, and have been rising. In 2016, reported rates are highest among males 25-29 years of age and among females 20-24 years of age.⁴ Between 2013 and 2017, an average of 6,187 gonorrhea cases were reported each year.*

Multi-drug resistance in *N. gonorrhoeae* has been an ongoing concern. Currently, resistance patterns are threatening the ability to successfully treat *N. gonorrhoeae* infections with single-dose oral antibiotics. In 2013 in Ontario, there were at least nine documented cases of clinical failures associated with the oral cefixime to treat gonorrhea.⁵

For further information regarding multi-drug resistant gonorrhea please refer to the Ontario Gonorrhea Testing and Treatment Guide, 2nd Edition (2018, or as current).⁶

For information on alternative treatment guidance options in individuals with contraindications to first-line treatment (i.e., cephalosporins given in combination with azithromycin or doxycycline) refer to Public Health Agency of Canada's Treatment of *N. gonorrhoeae* in response to the discontinuation of spectinomycin: Alternative treatment guidance statement (2017, or as current).⁷

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.

* 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.

4.2 Reservoir

Humans.¹

4.3 Modes of Transmission

Sexual contact via oral, vaginal, cervical, urethral or anal routes; in children, consider the possibility of sexual abuse; newborns: during delivery from infected mother.^{1,2,6}

Risk factors for transmission include:

- Sexually active youth under 25 years of age;
- Men who have sex with men;
- Those who have had contact with a person with proven gonorrhea infection or a compatible syndrome;
- Sex workers and their sexual partners;
- Street-involved youth; and
- Individuals with a history of gonorrhea or other STI infection.⁶

4.4 Incubation Period

In individuals who display symptoms, the incubation period is usually 1-14 days.¹

4.5 Period of Communicability

May extend for months if untreated; effective treatment usually ends communicability within hours.¹

4.6 Host Susceptibility and Resistance

General susceptibility.

When considering re-infection, primary treatment failure and inadequate treatment please consider the following factors:

- Appropriate treatment provided considering Ontario Gonorrhea Testing and Treatment Guide, 2nd Edition (2018, or as current);⁶
- Treatment adherence;
- Necessary follow up completed (i.e. test of cure undertaken if recommended);
- Avoidance of sexual exposure during treatment period and 7 days post treatment.

For surveillance purposes, if the above factors are met health units may consider 28 days for re-infection.

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);⁸

- 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

Preventative measures include counselling and risk education strategies about safer sex practices including use of condoms and early detection of infection by screening those at risk.²

Refer to *Sexual Health and Sexually Transmitted/Blood-Borne Infections Prevention and Control Protocol, 2018* (or as current), and the Canadian Guidelines on Sexually Transmitted Infections (2018, or as current).^{2,9}

For screening and testing recommendations please refer to the Ontario Gonorrhea Testing and Treatment Guide, 2nd Edition (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.

Boards of health can choose to consult the PIDAC Sexually Transmitted Infections Case Management and Contact Tracing Best Practice Recommendations (2009, or as current) for best practice guidance on case management.¹⁰

Treatment as per attending health care provider; refer to the Ontario Gonorrhea Testing and Treatment Guide, 2nd Edition (2018, or as current) for treatment and follow up recommendations.⁶

Refer to *Sexual Health and Sexually Transmitted/Blood-Borne Infections Prevention and Control Protocol, 2018* (or as current),⁹ Ontario Gonorrhea Testing and Treatment Guide, 2nd Edition (2018, or as current)⁶;

Boards of health can choose to consult PIDAC Sexually Transmitted Infections Case Management and Contact Tracing Best Practice Recommendations (2009, or as current) for additional guidance on contact management and follow-up.¹⁰

6.4 Management of Contacts

For contact management of cases, refer to the *Sexual Health and Sexually Transmitted/Blood-Borne Infections Prevention and Control Protocol, 2018* (or as current), Guidelines for Testing and Treatment of Gonorrhea in Ontario (2013, or as

current), and PIDAC Sexually Transmitted Infections Case Management and Contact Tracing Best Practice Recommendations (2009, or as current).^{9,6,10}

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. 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>
3. Government of Canada. Gonorrhoea [Internet]. Ottawa, ON: Her Majesty the Queen in Right of Canada; 2017 [updated July 7, 2017; cited February 20, 2018]. Available from: <https://www.canada.ca/en/public-health/services/diseases/gonorrhoea.html>
4. Ontario Agency for Health Protection and Promotion (Public Health Ontario). Reportable Disease Trends in Ontario: Gonorrhoea - 2016 Summary [Internet]. Toronto, ON: Queen's Printer for Ontario; 2018 [updated March 29, 2018; cited June 15, 2018]. Available from: <https://www.publichealthontario.ca/en/dataandanalytics/pages/rdto.aspx#/18>
5. Allen VG, Mitterni L, Seah C, Rebbapragada A, Martin IE, Lee C, et al. Neisseria gonorrhoeae treatment failure and susceptibility to cefixime in Toronto, Canada. JAMA. 2013;309(2):163-70.
6. Ontario Agency for Health Protection and Promotion (Public Health Ontario). Ontario Gonorrhoea Testing and Treatment Guide, 2nd Edition. Toronto, ON: Queen's Printer for Ontario; 2018. Available from: <https://www.publichealthontario.ca/en/BrowseByTopic/InfectiousDiseases/Pages/IDLandingPages/Gonorrhoea.aspx>
7. Public Health Agency of Canada. Treatment of N. Gonorrhoeae in Response to the Discontinuation of Spectinomycin: Alternative Treatment Guidance Statement. Ottawa, ON: Her Majesty the Queen in Right of Canada; 2017. Available from: <https://www.canada.ca/en/public-health/services/publications/diseases-conditions/gonorrhoea-alternate-treatment.html>
8. Health Protection and Promotion Act, R.S.O. 1990, Reg. 569, Reports, (2018). Available from: <https://www.ontario.ca/laws/regulation/900569>

9. 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
10. Ontario Agency for Health Protection and Promotion (Public Health Ontario), 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.

Revision Date	Document Section	Description of Revisions
January 2014	2.1 Clinical Presentation	<p>First paragraph removed first sentence “Presentation and severity differs in males and females.”</p> <p>Fourth paragraph changed from “Pharyngeal and anorectal infections are common among those engaging in oral and anal sex.” to “Pharyngeal and anorectal infections can occur among those engaging in oral and anal sex (respectively). If symptoms are present in rectal infections individuals often display rectal discharge and pain.”</p> <p>Addition of fifth paragraph “Can present as...”</p>
January 2014	2.2 Diagnosis	Addition of the second paragraph: “For further information...”
January 2014	3.1 Occurrence	<p>First paragraph, replaced “...both genders especially...” with “...predominantly...”</p> <p>Second paragraph, addition of third sentence “Between 2007 and 2011...”</p> <p>Addition of third, fourth and fifth paragraph.</p>
January 2014	3.3 Modes of Transmission	First paragraph changed from “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.” to “Sexual contact via oral, vaginal, cervical, urethral or anal routes; in children, consider the possibility of sexual abuse; newborns: during delivery from infected mother.”
January 2014	3.4 Incubation Period	Entire section revised.
January 2014	3.6 Host Susceptibility and Resistance	Entire section revised.

Revision Date	Document Section	Description of Revisions
January 2014	5.1 Personal Prevention Measures	First paragraph "...testing..." changed to "...screening..." Addition of the third paragraph: "For screening..."
January 2014	5.2 Infection Prevention and Control Strategies	Entire section revised.
January 2014	5.3 Management of Cases	Entire section revised.
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.
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	3.1 Clinical Presentation	First paragraph addition: "If symptoms do occur, they usually appear two to seven days after infection."
February 2019	4.3 Modes of Transmission	Added "Risk factors for transmission include..."

