Appendix A: Disease-Specific Chapters

Chapter: Acquired Immunodeficiency Syndrome (AIDS)

Revised December 2014
Acquired Immunodeficiency Syndrome (AIDS)
☒ Communicable
☐ Virulent

Health Protection and Promotion Act:
Ontario Regulation 558/91 – Specification of Communicable Diseases

Health Protection and Promotion Act:
Ontario Regulation 559/91 – Specification of Reportable Diseases

1.0 Aetiologic Agent

The human immunodeficiency virus (HIV) is a retrovirus of which two types have been identified: type 1 (HIV-1) and type 2 (HIV-2). They are serologically and geographically distinct but have similar epidemiological characteristics.¹

The pathogenicity of HIV-2 may be lower than that of HIV-1; they have genotypic and phenotypic differences. HIV-2 has lower disease progression and lower rates of mother-to-child transmission.¹

2.0 Case Definition

2.1 Surveillance Case Definition
See Appendix B

2.2 Outbreak Case Definition
Not applicable

3.0 Identification

3.1 Clinical Presentation
AIDS is a severe, life threatening clinical condition and is an advanced HIV related disease. This syndrome represents the late clinical stage of HIV infection resulting from progressive damage to the immune system, leading to one or more of many opportunistic infections and cancers of which bacterial pneumonia is one of the common presentations.¹

Symptoms of acute HIV infection, while difficult to diagnose and non-specific, may include fever, arthralgia or myalgia, rash, lymphadenopathy, sore throat, fatigue, headache, oral ulcers and or genital ulcers, weight loss, nausea, vomiting or diarrhea. Acute symptoms, if present, occur two to four weeks after the initial infection and last from one to two weeks or as long as several months.²

AIDS defining conditions include the following:³
• Bacterial pneumonia (recurrent)*
• Candidiasis (bronchi, trachea or lungs)
• Candidiasis (esophageal)†
• Cervical cancer (invasive)*
• Coccidioidomyces (disseminated or extrapulmonary)*
• Cryptococcosis (extrapulmonary)
• Cryptosporidiosis chronic intestinal (> 1 month duration)
• Cytomegalovirus diseases (other than in liver, spleen or nodes)
• Cytomegalovirus retinitis (with loss of vision)*,†
• Encephalopathy, HIV-related (dementia)*
• Herpes simplex: chronic ulcer(s) (> 1 month duration) or bronchitis, pneumonitis or esophagitis
• Histoplasmosis (disseminated or extrapulmonary)*
• Isosporiasis, chronic intestinal (> 1 month duration)*
• Kaposi’s sarcoma†
• Lymphoma, Burkitt’s (or equivalent term)*
• Lymphoma, immunoblastic (or equivalent term)*
• Lymphoma (primary in brain)
• Mycobacterium avium complex or M. kansasii (disseminated or extrapulmonary)*
• Mycobacterium of other species or unidentified species*,†
• M. tuberculosis (disseminated or extrapulmonary)*
• M. tuberculosis (pulmonary)*
• Pneumocystis jirovecii pneumonia†,¥
• Progressive multifocal leukoencephalopathy
• Salmonella septicemia (recurrent)*
• Toxoplasmosis of brain†
• Wasting syndrome due to HIV*

For pediatric cases only (< 15 years old):
• Bacterial infections (multiple or recurrent, excluding recurrent bacterial pneumonia)*
• Lymphoid interstitial pneumonia and/or pulmonary lymphoid hyperplasia†

* must have laboratory evidence of HIV infection
† may be diagnosed presumptively if laboratory evidence of HIV infection is present
¥ formerly known as Pneumocystis carinii
3.2 Diagnosis

See Appendix B

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

AIDS was first reported in 1981.1 The Public Health Agency of Canada list of HIV Endemic Countries from 2009, includes: 71 African, Caribbean, Asian, and Central/South American countries.4

In Ontario there were an estimated 27,420 people living with HIV in 2009 and it was estimated that there were over 1,500 new infections that year. Almost half of the infections in 2009 were among men who have sex with men.5 In 2009, there were 114 cases of AIDS reported to public health in Ontario.

Please refer to the Public Health Ontario Monthly Infectious Diseases Surveillance Reports and other infectious diseases reports for more information on disease trends in Ontario.6, 7 http://www.publichealthontario.ca/en/DataAndAnalytics/Pages/DataReports.aspx

4.2 Reservoir

Humans1

4.3 Modes of Transmission

Person to person transmission through: unprotected sexual intercourse; contact with infected body fluids such as sexual fluids (vaginal, seminal and anal), blood, and breast milk; CSF; the use of HIV-contaminated needles and syringes and some drug paraphernalia, including sharing by injection drug users; transfusion of infected blood or its components; organ and tissue transplants; mother to child transmission; and contact of abraded skin or mucosa with body secretions such as blood, CSF or semen.1

A more detailed description of HIV transmission is available in the Canadian AIDS Society publication, “HIV Transmission: Guidelines for Assessing Risk – A Resource Guide for Educators, Counsellors and Health Care Providers”, 5th ed.8 Updated information with a focus on biological risk and transmission through sexual activity is available in the Canadian AIDS Society publication, “HIV Transmission: Factors that Affect Biological Risk”;9 as well as in the other resources and references listed below.

4.4 Incubation Period

Variable; time from initial infection to detectable antibodies is usually 1-3 months. The time from HIV infection to diagnosis of AIDS has an observed range of less than one year to 15 years or longer.1
4.5 Period of Communicability
Not known precisely; begins early after onset of HIV infection and presumably extends throughout life. Infectivity during the first months is considered to be high; it increases with viral load, with worsening clinical status and with the presence of other STIs.\(^1\)

4.6 Host Susceptibility and Resistance
Presumed to be general; race, sex and pregnancy status do not appear to affect susceptibility to HIV infection or AIDS. The presence of other STIs especially if ulcerative increases susceptibility.\(^1\)

5.0 Reporting Requirements

5.1 To local Board of Health
Laboratory confirmed cases of HIV infection shall be reported to the medical officer of health by persons required to do so under the Health Protection and Promotion Act (HPPA), R.S.O. 1990.\(^10\)

5.2 To the Ministry of Health and Long-Term Care (the ministry) or Public Health Ontario (PHO), as specified by the ministry
Report only case classifications specified in the case definition.

Cases shall be reported using the integrated Public Health Information System (iPHIS), or any other method specified by the ministry within five (5) business days of receipt of initial notification as per iPHIS Bulletin Number 17: Timely Entry of Cases.\(^11\)

The minimum data elements to be reported for each case is specified in the following:

- *Ontario Regulation 569* (Reports) under the HPPA;\(^12,10\)
- 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
Measures include:\(^2\)

- Provide education to persons, especially those presenting with concerns about HIV infections, about HIV transmission, safer sex/drug practices, including proper use of barrier methods and risk reduction with injection drug use. Persons with known risk behaviors should be offered HIV screening, with appropriate pre and post-test counselling, and referral if necessary. High risk clients should be counselled to test more frequently.\(^13\) Counselling should be age appropriate and individualized to the person being tested.
- All pregnant women should be offered confidential HIV testing and counselling as part of a routine prenatal care for each pregnancy.
For recommendations on contact management refer to the following documents:
- *Sexual Health and Sexually Transmitted Infections Prevention and Control Protocol, 2008* (or as current)
- *Canadian Guidelines on Sexually Transmitted Infections*, Public Health Agency of Canada, 2006 edition (or as current)²

For more information on counselling and education refer to the following documents:
- PIDAC *Sexually Transmitted Infections Case Management and Contact Tracing Best Practice Recommendations*, April 2009 (or as current)
- *Sexual Health and Sexually Transmitted Infections Prevention and Control Protocol, 2008* (or as current) and,
- the *Canadian Guidelines on Sexually Transmitted Infections*, Public Health Agency of Canada, 2006 edition (or as current).²

More information is available in the additional resources and references listed below.

### 6.2 Infection Prevention and Control Strategies

Strategies include:
- At the time of diagnostic testing for HIV, the health care practitioners should review prevention practices;
- Health care practitioners should work with clients to identify barriers to prevention practices and the means to overcome them; and
- Routine practices are recommended for contact with bodily fluids.²

Refer to PHO’s website at [www.publichealthontario.ca](http://www.publichealthontario.ca) to search for the most up-to-date Provincial Infectious Diseases Advisory Committee (PIDAC) best practices on Infection Prevention and Control (IPAC). PIDAC best practice documents can be found at: [http://www.publichealthontario.ca/en/BrowseByTopic/InfectiousDiseases/PIDAC/Pages/PIDAC_Documents.aspx](http://www.publichealthontario.ca/en/BrowseByTopic/InfectiousDiseases/PIDAC/Pages/PIDAC_Documents.aspx)

### 6.3 Management of Cases

Primary focus of HIV/AIDS case management is to:
- Counsel regarding ongoing transmission risks;
- Counsel regarding duty to disclose to future sexual partners and needle sharing partners;
- Carry out partner notification;
- Link the case to appropriate resources and treatment; and
- Offer testing for other STI, hepatitis and tuberculosis where appropriate.¹³

Provide education and counselling as above to the client including information about community support agencies and a reminder not to donate blood or blood products.² Report
past blood donations / transfusions of persons found to be HIV positive to Canadian Blood Services as per Ontario Regulation 338/96.14

For case management refer to the following documents:

- **PIDAC Sexually Transmitted Infections Case Management and Contact Tracing Best Practice Recommendations**, April 2009 (or as current)
- **Sexual Health and Sexually Transmitted Infections Prevention and Control Protocol, 2008** (or as current)
- **Canadian Guidelines on Sexually Transmitted Infections**, Public Health Agency of Canada, 2006 edition (or as current)²

### 6.4 Management of Contacts

For contact management refer to the following documents:

- **PIDAC Sexually Transmitted Infections Case Management and Contact Tracing Best Practice Recommendations**, April 2009 (or as current)
- **Sexual Health and Sexually Transmitted Infections Prevention and Control Protocol, 2008** (or as current)
- **Canadian Guidelines on Sexually Transmitted Infections**, Public Health Agency of Canada, 2006 edition (or as current)²

### 6.5 Management of Outbreaks

Not Applicable

### 7.0 References


8.0 Additional Resources


List of Ontario AIDS Service Organizations (ASO), HIV Outpatient Clinics, and other local HIV/AIDS community supports is available from: www.ASO411.com

The Canadian AIDS Treatment Information Exchange (CATIE) provides a number of resources on HIV and Hepatitis C from across Canada, including examples of HIV prevention initiatives and up-to-date treatment information. Available from: http://www.catie.ca


9.0 Document History

Table 1: History of Revisions

<table>
<thead>
<tr>
<th>Revision Date</th>
<th>Document Section</th>
<th>Description of Revisions</th>
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</thead>
<tbody>
<tr>
<td>December 2014</td>
<td>1.0 Aetiologic Agent</td>
<td>Second paragraph, first line, error corrected: “that that” replaced with “than that”.</td>
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<tr>
<td>December 2014</td>
<td>3.1 Clinical Presentation</td>
<td>Second paragraph, addition of “Acute symptoms, if present, occur two to four weeks or as long as several months” to the end of the paragraph. Under AIDS defining conditions, removed “(formerly carinii)” from Pneumocystis jirovecii and replaced with the following note: “formerly known as Pneumocystis carinii”. Deleted “carinii pneumonia”.</td>
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<tr>
<td>December 2014</td>
<td>3.2 Diagnosis</td>
<td>Addition of “For further information about human diagnostic testing…”</td>
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<td>December 2014</td>
<td>Countries from 2009, includes…” Addition of second and third paragraphs.</td>
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<td>December 2014</td>
<td>4.3 Modes of Transmission First paragraph, addition of “(vaginal, seminal and anal)”. Second paragraph, addition of “Updated information with a focus on biological risk and transmission through sexual activity is available in the Canadian AIDS Society publication, “HIV Transmission: Factors that Affect Biological Risk”.”</td>
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<td>5.1 To local Board of Health Addition of abbreviation “(HPPA)” following “Health Protection and Promotion Act”.</td>
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<tr>
<td>December 2014</td>
<td>5.2 To the Ministry of Health and Long-Term Care (the ministry) or Public Health Ontario (PHO), as specified by the ministry Section title 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”. First paragraph, deletion of “to PHD”. Third paragraph, second and third bullets updated.</td>
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<td>December 2014</td>
<td>6.1 Personal Prevention Measures Entire section updated.</td>
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<td>6.2 Infection Prevention and Control Strategies Entire section updated.</td>
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<tr>
<td>December 2014</td>
<td>6.3 Management of Cases Addition of five bullet points in first paragraph. Addition of second paragraph, “Provide education and counselling as above to the client including…” Addition of the PIDAC Sexually Transmitted Infections Case Management and Contact Tracing Best Practice Recommendations as a document to refer to.</td>
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