

Appendix A: Disease-Specific Chapters

Chapter: Amebiasis

Amebiasis

- 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) Aetiologic Agent:	Amebiasis is an enteric infection caused by <i>Entamoeba histolytica</i> (<i>E. histolytica</i>). Differentiation of the pathogenic <i>E. histolytica</i> from the morphologically identical non-pathogenic <i>E. dispar</i> is based on immunologic differences and on isoenzyme patterns. Most asymptomatic cyst passers carry <i>E. dispar</i> (1). The pathogenic <i>E. histolytica</i> and the non-pathogenic <i>E. dispar</i> are excreted as cysts or trophozoites in stools of infected people (2).
2) Case Definition:	
Surveillance Case Definition	See Appendix B
Outbreak Case Definition	<p>The outbreak case definition varies with the outbreak under investigation. Consideration should be given to the following in establishing an outbreak case definition:</p> <ol style="list-style-type: none">1. Clinical, laboratory and/or epidemiological criteria2. The time frame for occurrence3. The geographic location(s) or place(s) where cases live or became ill/exposed4. Special attributes of cases (e.g. age, underlying conditions) and/or the aetiologic agent <p>Cases may be classified by levels of probability (i.e. confirmed, probable and/or suspect).</p>
3) Identification:	
Clinical Presentation	<p>Clinical syndromes associated with <i>E. histolytica</i> infection include non-invasive intestinal infection, intestinal amebiasis, ameboma, and liver abscess (2). Most infections are asymptomatic (1).</p> <p>Persons with non-invasive intestinal infection may be asymptomatic or may have non-specific intestinal tract complaints. Persons with intestinal amebiasis (amebic colitis) generally have 1 to 3 weeks of increasingly severe diarrhea progressing to grossly bloody dysenteric stools with lower abdominal pain and tenesmus. Weight loss and</p>

	<p>fever may be present (2).</p> <p>An ameboma may occur as an annular lesion of the cecum or ascending colon that may be mistaken for colonic carcinoma or as a tender extra-hepatic mass, mimicking a pyogenic abscess. Amebomas usually resolve with anti-amebic therapy and do not require surgery (2).</p> <p>In a small proportion of people, extraintestinal disease may occur usually in the liver but can occur in the lungs, pleural space, pericardium, brain skin and genitourinary tract. Liver abscess may be acute with fever, abdominal pain, tachycardia, liver tenderness and hepatomegaly or chronic with weight loss, vague abdominal symptoms and irritability (2).</p>
Diagnosis	<p>See Appendix B</p> <p>Fresh fecal specimens are necessary to differentiate non-pathogenic amoebae from macrophages (1).</p> <p>More information on diagnostic tests is available in the Specimen Collection Guide, Testing Guidelines, Public Health Laboratory, MOHLTC, June 2008.</p>
4) Epidemiology:	
Occurrence	<p>Amebiasis is ubiquitous (1). Occurs worldwide but is more prevalent in areas of poor sanitation (2). The proportion of cyst passers who have clinical disease is usually low with higher rates of cyst passage in areas with poor sanitation, mental institutions and among men who are sexually active with men (probably <i>E. dispar</i>) (1).</p> <p>Amebiasis is a common disease in Ontario. The number of cases remains fairly constant throughout the year, with just a slight peak in the summer months. Between 2003 and 2007, an average of 738 cases occurred per year.</p>
Reservoir	Humans; usually a chronically ill or asymptomatic cyst passer (1).
Modes of Transmission	Mainly through ingestion of fecal contaminated food or water containing amoebic cysts, which are relatively chlorine resistant. Transmission may occur sexually by fecal-oral contact (1).
Incubation Period	From a few days to several months or years; commonly 2-4 weeks (1).
Period of Communicability	During the period that <i>E. histolytica</i> cysts are passed, which may continue for years (1).
Susceptibility and Resistance	Susceptibility to infection is general; those harbouring <i>E. dispar</i> do not develop disease; susceptibility to re-infection has been demonstrated but is apparently rare (1).

5) Reporting Requirements:

To local Board of Health	Confirmed and suspected cases shall be reported to the medical officer of health by persons required to do so under the <i>Health Protection and Promotion Act</i> , R.S.O. 1990.
To Public Health Division (PHD)	<p>Report only case classifications specified in the case definition to PHD. Note: Cases identified as both <i>dispar</i> and <i>histolytica</i> are not reportable and require further sampling to differentiate pathogenic <i>E. histolytica</i> from the morphologically similar but non-pathogenic <i>E. dispar</i>.</p> <p>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 <i>iPHIS Bulletin</i> Number 17: Timely Entry of Cases (3).</p> <p>The minimum data elements to be reported for each case is specified in the following:</p> <ul style="list-style-type: none">• <i>Ontario Regulation 569</i> (Reports) under the Health Protection and Promotion Act (HPPA)• The disease-specific User Guides published by the Ministry, and• Bulletins and directives issued by the Ministry

6) Prevention and Control Measures:

Personal Prevention Measures	<p>Control Measures include education on the following (2):</p> <ul style="list-style-type: none">• Careful hand hygiene after defecation, sexual contact and before preparing or eating food• Sanitary disposal of fecal material• Adequate sanitation of drinking water• Sexual transmission may be prevented by use of personal protective measures and avoidance of sexual practices that may facilitate fecal-oral transmission• Where water might be contaminated, travelers should be advised of methods to make water safe for drinking, including boiling, chemical disinfection and filtration (2)
Infection Prevention and Control Strategies	<ul style="list-style-type: none">• Implementation of contact precautions and routine practices for hospitalized patients for the duration of illness (2)• Provision of information on personal prevention measures, including advice to avoid public swimming pools when symptomatic• Exclusion of symptomatic cases from conducting activities in high-risk settings such as the food industry, healthcare, or daycare, for 24 hours after diarrhoea resolves or for 48 hours after completion of antibiotic treatment.
Management of Cases	Investigate cases to determine the source of infection. Refer to

	<p>Section 5: <i>Reporting Requirements</i> above for relevant data to be collected during case investigation. The following disease-specific information should also be obtained during case management:</p> <ul style="list-style-type: none"> • Symptoms and date of symptom onset • Earliest and latest exposure dates • Occupational history • Residency/attendance at a facility or institution • History of travel • Exposure to inadequately treated water supply • Inadequate hygiene practices • History of institutionalization • History of risky sexual behaviour • Treatment status <p>Provide information on personal prevention measures and the prevention of secondary cases.</p> <p>Exclude symptomatic cases from conducting activities in high-risk settings such as the food industry, healthcare, or daycare, for 24 hours after diarrhoea resolves or for 48 hours after completion of antibiotic treatment.</p> <p>Obtain contact information of all contacts for follow-up and contact management.</p> <p>Provide infection control guidelines where applicable to operators of institutions or premises where cases and/or disease transmission is suspected.</p>
<p>Management of Contacts</p>	<p>Household members and other suspected contacts should be assessed for symptoms. Provide information about the spread of infection and how to prevent it. Consider testing symptomatic household members and refer to attending health care provider for treatment.</p>
<p>Management of Outbreaks</p>	<p>As with most enteric diseases, an outbreak is defined as the occurrence of two or more cases of enteric illness linked by time, common exposure or source and most often location.</p> <p>Provide public health management of outbreaks or clusters in order to identify the source of illness, stop the outbreak and limit secondary spread. As per this Protocol, outbreak management shall comprise of but not be limited to the following general steps:</p> <ul style="list-style-type: none"> • Confirm diagnosis and verify the outbreak • Establish an outbreak team • Develop an outbreak case definition • Implement prevention and control measures • Implement and tailor communication and notification plans depending on the scope of the outbreak • Conduct epidemiological analysis on data collected • Conduct environmental inspections of implicated premise where applicable

	<ul style="list-style-type: none"> • Coordinate and collect appropriate clinical specimens where applicable • Prepare a written report • Declare the outbreak over in collaboration with the outbreak team
7) References	<p>(1) Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.</p> <p>(2) Pickering LK, Baker CJ, Long SS, McMillan JA, editors. Red book: 2006 report of the Committee on Infectious Diseases. 27th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2006. Section 3, Summaries of infectious diseases; p. 204-6.</p> <p>(3) Ministry of Health and Long-Term Care. Timely entry of cases. <i>iPHIS Bulletin</i>. 2007 May 11;17.</p>
8) Additional Resources	<p>Ministry of Health and Long Term Care, Advisory Committee on Communicable Diseases, “Enteric Disease Screening Recommendations and Case Management Guidelines on Food handlers and Patient Care Workers”, 1990 or as current (Currently being revised as “Guidelines for the Management of Enteric Diseases in Healthcare Workers, Food Handlers and Day Care Staff and Attendees”).</p> <p>Ministry of Health Long Term-Care, Public Health Laboratories. Specimen collection guide: testing guidelines. Toronto: Queen’s Printer for Ontario; 2008. Available from http://www.health.gov.on.ca/english/providers/pub/labs/specimen_guide/testing_guidelines.pdf.</p> <p>Notifiable Diseases On-Line [Internet]. Ottawa: Public Health Agency of Canada; 2003. Amebiasis; 2003 Dec 11 [cited 2009 Feb 12]. Available from http://dsol-smed.phac-aspc.gc.ca/dsol-smed/ndis/diseases/amoe_e.html.</p> <p>Ministry of Health and Long-Term Care. Food safety protocol. Toronto: Queen’s Printer for Ontario; 2008. Available from http://www.health.gov.on.ca/english/providers/program/pubhealth/oph_standards/ophs/progstds/protocols/food_safety.pdf. (or as current)</p> <p>Gregg MB, editor. Field epidemiology. 2nd ed. New York: Oxford University Press; 2002.</p> <p>Ministry of Health and Long-Term Care. Infectious diseases protocol. Toronto: Queen’s Printer for Ontario; 2009. Available from http://www.health.gov.on.ca/english/providers/program/pubhealth/oph_standards/ophs/infdispro.html (or as current)</p> <p><i>Health Protection and Promotion Act</i>, R.S.O. 1990, c. H.7. Available from http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90h07_e.htm.</p>

