

Enteric Illness

Amoebiasis

Date Reviewed: June, 2012

Section: 3-30

Page 1 of 7

Notification Timeline:

From Lab/Practitioner to Public Health: Within 48 hours.

From Public Health to Ministry of Health: Within 2 weeks.

Public Health Follow-up Timeline: Initiate within 72 hours.

Information

Case Definition (Alberta Communicable Disease Management Guidelines, 2011)

Confirmed Case	Laboratory confirmation of infection with or without clinical illness:^[1] - microscopic demonstration of trophozoites or cysts in fecal specimens, smears of aspirates or scrapings obtained by proctoscopy, or aspirates of abscess or sections of tissue^[2] OR - positive stool antigen detection test OR - positive serology.^[3]
^[1] Clinical illness varies from mild abdominal discomfort with diarrhea (+/- blood, mucus) alternating with periods of constipation and/or remission to amoebic dysentery (fever, chills, bloody/mucoid diarrhea). Rarely, disseminated disease may occur causing liver (most common), lung or brain abscess. ^[2] The organism must be differentiated from non-pathogenic amoebae and macrophages. Note: Morphological (microscopical) diagnosis alone is unable to differentiate between pathogenic <i>E. histolytica</i> and non-pathogenic <i>E. dispar</i>. ^[3] Antibody response in amoebiasis is only seen when tissue invasion has occurred and may represent past or present disease. Serology is almost always negative in asymptomatic shedders.	

Causative Agent (Heymann, 2008)

- Entamoeba histolytica*, a protozoan parasite.
- E. dispar*, which is non-pathogenic, is morphologically identical to *E. histolytica*.

Enteric Illness

Amoebiasis

Date Reviewed: June, 2012

Section: 3-30

Page 2 of 7

Symptoms (Heymann, 2008)

- Most infections are asymptomatic.
- Symptoms vary from mild abdominal discomfort with diarrhea containing blood or mucus, alternating with periods of constipation or remission to acute dysentery with bloody mucoid stools and amebic dysentery.
- Other symptoms include chronic abdominal pain and irregular bowel pattern, amebic granulomata (ameboma) in the wall of the large intestine, and ulceration of the skin (usually in the perianal region).
- In a small proportion of patients, extraintestinal disease may occur and produce abscesses of the liver, less commonly of the lung or brain.
- Penile lesions may occur in men after insertive anal intercourse.

Incubation Period (American Academy of Pediatrics, 2009)

Variable from a few days to several months or years, but commonly 2-4 weeks.

Reservoir/Source (Heymann, 2008)

Humans, usually a chronically ill or asymptomatic cyst passer.

Mode of Transmission (Heymann, 2008)

Transmission occurs by:

- the fecal-oral route, through fecal contamination of food or drink;
- unwashed hands of a food handler;
- fresh vegetables contaminated by human excrement (e.g., washed with sewage-polluted water). Cysts are relatively chlorine resistant and may survive in moist environmental conditions for weeks to months.

Transmission may also occur through:

- sexual contact (oral-anal contact) with a chronically ill or asymptomatic cyst passer;
- flies may also act as vectors of cyst-laden feces;
- unwashed hands in institutions where hygiene is poor.

Individuals with acute amoebic dysentery are less communicable because dysenteric stools do not contain cysts and the trophozoites are fragile.

Enteric Illness

Amoebiasis

Date Reviewed: June, 2012

Section: 3-30

Page 3 of 7

Period of Communicability (Heymann, 2008)

During the period of passing cysts, which may continue for years.

Specimen Collection and Transport

- Submit stool specimens in SAF container. Fill specimen container to the line on the container, do not over or under fill. Mix stool well with preservative using spoon provided, before submitting.
- Specimens are referred to Saskatchewan Disease Control Laboratory (SDCL) for microscopic examination. *E. histolytica* and *E. dispar* cannot be differentiated by microscopy. Report will indicate presence and quantity of trophozoites.

Refer to the Saskatchewan Disease Control Laboratory Compendium of Tests for details at <http://sdcl-testviewer.ehealthsask.ca>.

Methods of Control/Role of Investigator

Prevention and Education

Refer to the [Enteric Illness Introduction and General Considerations](#) section of the manual that highlights topics for client education that should be considered as well as provides information on high-risk groups and activities.

- Provide prevention and education to case or caregiver, daycare or institution about personal hygiene.
- Educate about the sanitary disposal of feces and careful hand washing after defecation.
- Advise case to avoid food preparation.
- Advise case to avoid using public swimming pools until diarrhea has resolved.
- Include standard letters to schools, daycares, sports teams, etc.
- Educate food handlers about proper food and equipment handling and hygiene, especially in avoiding cross-contamination from raw meat products, and thorough hand washing.
- Educate about the risk of sexual practices that permit fecal-oral contact.



Enteric Illness

Amoebiasis

Date Reviewed: June, 2012

Section: 3-30

Page 4 of 7

Management

I. Case

History

Obtain history of:

- international travel (especially to areas with inadequate water/sewage) or to recreational/rural areas within Saskatchewan/Canada;
- institutionalization.

Determine water source and sewage disposal if not on a municipal system.

Immunization

Not applicable.

Treatment/Supportive Therapy

Treatment involves the elimination of the tissue-invading trophozoites as well as the cysts in the intestinal lumen. There are several regimens to choose from. Refer to the Medical Health Officer (MHO) or infectious disease specialist for specific treatment regimes. Refer to [Appendix H - Sources for Clinical Treatment Guidelines](#).

Exclusion

The following individuals should be excluded:

- Food handler, health care/childcare or other staff involved with personal care, child below the age of 5 years in childcare.
- Individuals who are unable to maintain standards of personal hygiene (i.e., mentally or physically handicapped) from activities or programs they may be enrolled or participating in.
 - For individuals living in an institution, follow contact precautions until diarrhea has resolved.

When exclusion is recommended, it should continue until one of the following criteria is met:

- treatment with an appropriate antibiotic has been completed OR
- diarrhea is resolved (when stools have been normal for that individual for 48 hours).

Enteric Illness

Amoebiasis

Date Reviewed: June, 2012

Section: 3-30

Page 5 of 7

Referrals

None.

II. Contacts/Contact Investigation

Contact Definition

Contacts include:

- persons living in the same household;
- children and childcare workers in a daycare/dayhome;
- individuals exposed to the same source (if it is identified).

Testing

All household members should submit stool samples. Symptomatic childcare workers and attendees and contacts should be tested and treated.

Prophylaxis/Immunization

None.

Exclusion

Symptomatic contacts in special-risk groups should be excluded until diarrhea has resolved.

III. Environment

Child Care Centre Control Measures/Institutional Control Measures

- For hospitalized patients, use contact precautions in the handling of feces, contaminated clothing and bed linen.
- Contact precautions should be used while case is symptomatic. In the event of a cluster of cases in the institution, food handlers, water source, other attendees and staff may need to be examined.
- Investigate/assess for and ensure the provision of safe water supplies.
- Boil untreated water since chlorination is ineffective against cysts.
- Ensure adequate disposal of sewage.

Enteric Illness

Amoebiasis

Date Reviewed: June, 2012

Section: 3-30

Page 6 of 7

Epidemic Measures

Any group of possible cases requires prompt laboratory confirmation to exclude false-positive identification of *E. histolytica* or other causal agents and epidemiological investigation to determine source of infection and mode of transmission. If a common vehicle is indicated, such as water or food, appropriate measures should be taken to correct the situation.



Enteric Illness

Amoebiasis

Date Reviewed: June, 2012

Section: 3-30

Page 7 of 7

References

- Alberta Health and Wellness. (2011). *Alberta public health notifiable disease management guidelines: Amoebiasis*. Retrieved June, 2012 from <http://www.health.alberta.ca/professionals/notifiable-diseases-guide.html>.
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- Heymann, D. L. (Ed.). (2008). *Control of communicable diseases manual* (19th ed.). Washington, DC: American Public Health Association.
- United States Food & Drug Administration, Center for Food Safety & Applied Nutrition. *Bad bug book: Foodborne pathogenic microorganisms and natural toxins handbook*. McLean, VA: International Medical Publishing, Inc.
- Manitoba Health. (2001). *Manitoba communicable disease management protocol: Amebiasis*. Retrieved June, 2012 from <http://www.gov.mb.ca/health/publichealth/cdc/protocol/index.html>.



Amoebiasis Data Collection Worksheet

Panorama QA complete: ☐ Yes ☐ No
Initials: _____

Please complete **all** sections.

Panorama Client ID: _____
Panorama Investigation ID: _____

A) CLIENT INFORMATION

LHN -> SUBJECT -> CLIENT DETAILS -> PERSONAL INFORMATION

Last Name:	First Name: and Middle Name:	Alternate Name (Goes by):
DOB: YYYY / MM / DD Age: _____	Health Card Province: _____ Health Card Number (PHN): _____	Preferred Communication Method: (specify - i.e. home phone, text): Email Address: ☐ Work ☐ Personal
Phone #: ☐ Primary Home: ☐ Mobile contact: ☐ Workplace:		
Place of Employment/School:	Gender: ☐ Male ☐ Female ☐ Other ☐ Unknown	
Alternate Contact: _____ Relationship: _____ Alt. Contact phone: _____	Address Type: ☐ No fixed ☐ Postal Address ☐ Primary Home ☐ Temporary ☐ Legal Land Description Mailing (Postal address): Street Address or FN Community (Primary Home): Address at time of infection if not the same:	

B) INVESTIGATION INFORMATION

LHN-> SUBJECT SUMMARY-> ENTERIC ENCOUNTER GROUP ->CREATE INVESTIGATION

Disease Summary Classification:	Date	Classification:	Date	LAB TEST INFORMATION:
CASE		CONTACT		Date specimen collected:
☐ Confirmed	YYYY / MM / DD	☐ Contact	YYYY / MM / DD	YYYY / MM / DD
☐ Does Not Meet Case Definition	YYYY / MM / DD	☐ Not a Contact	YYYY / MM / DD	Specimen type:
☐ Person Under Investigation	YYYY / MM / DD	☐ Person Under Investigation	YYYY / MM / DD	☐ Intestinal Fluid ☐ Stool
Disposition: FOLLOW UP: ☐ In progress YYYY / MM / DD ☐ Complete YYYY / MM / DD ☐ Incomplete - Declined YYYY / MM / DD ☐ Not required YYYY / MM / DD ☐ Incomplete - Lost contact YYYY / MM / DD ☐ Referred - Out of province YYYY / MM / DD ☐ Incomplete - Unable to locate YYYY / MM / DD (specify where)				
REPORTING NOTIFICATION		Location:		
Name of Attending Physician or Nurse:				
Physician/Nurse Phone number:		Date Received (Public Health): YYYY / MM / DD		
Type of Reporting Source: ☐ Health Care Facility ☐ Lab Report ☐ Nurse Practitioner ☐ Physician ☐ Other _____				

C) DISEASE EVENT HISTORY

INVESTIGATION->DISEASE SUMMARY (UPDATE)->DISEASE EVENT HISTORY

Site / Presentation:	☐ Anogenital	☐ Extraintestinal	☐ Intestinal	☐ Other
Staging:	☐ Acute	☐ Carrier		

Amoebiasis Data Collection Worksheet

Please complete all sections

Panorama Client ID: _____
Panorama Investigation ID: _____

D) SIGNS & SYMPTOMS

LHN-> INVESTIGATION->SIGNS & SYMPTOMS

Description	Yes Date of onset	Date of recovery	Description	Yes Date of onset	Date of recovery
Asymptomatic		YYYY / MMM / DD	Abdominal - discomfort		YYYY / MMM / DD
Chills		YYYY / MMM / DD	Fever		YYYY / MMM / DD
Constipation		YYYY / MMM / DD	Lesion - genital		YYYY / MMM / DD
Dehydration		YYYY / MMM / DD	Lesion - perianal - ulcer		YYYY / MMM / DD
Diarrhea		YYYY / MMM / DD	Pain - abdominal		YYYY / MMM / DD
Diarrhea - bloody		YYYY / MMM / DD	Weight loss		YYYY / MMM / DD
Diarrhea - mucousy		YYYY / MMM / DD			YYYY / MMM / DD
Other Signs & Symptoms if applicable					

E) INCUBATION AND COMMUNICABILITY

LHN-> INVESTIGATION->INCUBATION & COMMUNICABILITY

Incubation for Case (period for acquisition): Earliest Possible Exposure Date: YYYY / MM / DD		Latest Possible Exposure Date: YYYY / MM / DD
<i>Exposure Calculation details:</i>		
Communicability for Case (period for transmission): Earliest Possible Communicability Date: YYYY / MM / DD		Latest Possible Communicability Date: YYYY / MM / DD
<i>Communicability Calculation Details:</i>		

F) RISK FACTORS N—No, NA—Not asked, U—Unknown

LHN-> SUBJECT->RISK FACTORS

DESCRIPTION	Yes Start date	N, NA, U	Add'l Info
Contact - At risk population (international travellers or immigrants)	YYYY / MM/DD		
Contact - Daycare			
Contact - Persons with diarrhea/vomiting	YYYY / MM/DD		
Occupation - Child Care Worker			
Occupation - Food Handler	YYYY / MM/DD		
Sexual Behaviour - Oral-anal			
Special Population - From or residence in an endemic country (add'l info)			
Travel - Outside of within Canada (Add'l Info)	YYYY / MM/DD AE		
Travel - Outside of Saskatchewan, but within Canada (add'l info)	YYYY / MM/DD AE		
Water - Bottled water (specify)			
Water - Private well or system (Add'l Info)			
Water - Public water system (Add'l Info)			
Water - Untreated water (Add'l Info)			
Water (Recreational) - Pond, stream, lake, river, ocean (Add'l Info)	YYYY / MM/DD		
Water (Recreational) - Private (swimming pool/whirl pool) (Add'l Info)	YYYY / MM/DD		
Water (Recreational) - Public (swimming pool/paddling pool/whirl pool) (Add'l Info)	YYYY / MM/DD		

Amoebiasis Data Collection Worksheet

Please complete all sections

Panorama Client ID: _____
Panorama Investigation ID: _____

G) COMPLICATIONS

INVESTIGATION->COMPLICATIONS

Description	Yes Date of onset	Description	Yes Date of onset
Abscess - brain	YYYY / MMM / DD	Disseminated infection	YYYY / MMM / DD
Abscess - liver		Hemorrhage - Intestinal	
Abscess - lung		Intussusception	
Ameboma (amebic granulomata)	YYYY / MMM / DD		
Other complications			

H) TREATMENT

LHN-> INVESTIGATION-> MEDICATIONS->MEDICATIONS SUMMARY

Medication (<i>Panorama = Other Meds</i>) : _____
Prescribed by: _____ Started on: YYYY / MMM / DD

I) INTERVENTION

LHN-> INVESTIGATION->TREATMENT & INTERVENTIONS->INTERVENTION SUMMARY

Intervention Type and Sub Type:				
Assessment: Investigator name ☐ Assessed for contacts YYYY / MM / DD		Immunization: Investigator name ☐ Eligible immunizations recommended YYYY / MM / DD		
Communication: ☐ Other communication (See Investigator Notes) YYYY / MM / DD Investigator name ☐ Letter (See Document Management) YYYY / MM / DD Investigator name		Public Health Order: ☐ Order (specify) _____ YYYY / MM / DD Investigator name		
General: Investigator name ☐ Disease-Info/Prev-Control YYYY / MM / DD ☐ Disease-Info/Prev-Cont/Assess'd for Contacts YYYY / MM / DD		Referral: ☐ Canadian food inspection agency YYYY / MM / DD Investigator name ☐ Primary care provider YYYY / MM / DD Investigator name ☐ Consultation with MHO YYYY / MM / DD Investigator name		
Education/counseling: ☐ Prevention/Control measures YYYY / MM / DD ☐ Disease information provided YYYY / MM / DD Investigator name		Testing: Investigator name ☐ Stool testing recommended (e.g. contacts) YYYY / MM / DD ☐ Laboratory testing recommended (contacts) YYYY / MM / DD		
Exclusion: Investigator name ☐ Daycare YYYY / MM / DD ☐ Preschool YYYY / MM / DD ☐ School YYYY / MM / DD ☐ Work YYYY / MM / DD		Other Investigation Findings: ☐ Investigator Notes ☐ Document Management Notes		
Date	Intervention subtype	Comments	Next follow-up Date	Initials
YYYY / MM / DD			YYYY / MM / DD	
YYYY / MM / DD			YYYY / MM / DD	
YYYY / MM / DD			YYYY / MM / DD	
YYYY / MM / DD			YYYY / MM / DD	
YYYY / MM / DD			YYYY / MM / DD	
YYYY / MM / DD			YYYY / MM / DD	
YYYY / MM / DD			YYYY / MM / DD	
YYYY / MM / DD			YYYY / MM / DD	

Amoebiasis Data Collection Worksheet

Please complete **all** sections

Panorama Client ID: _____
Panorama Investigation ID: _____

J) OUTCOMES

LHN-> INVESTIGATION-> OUTCOMES

- | | | |
|---|---|--|
| ☐ Not yet recovered/recovering YYYY / MM / DD | ☐ ICU/intensive medical care YYYY / MM / DD | ☐ Hospitalization YYYY / MM / DD |
| ☐ Recovered YYYY / MM / DD | ☐ Intubation /ventilation YYYY / MM / DD | ☐ Other YYYY / MM / DD |
| ☐ Fatal YYYY / MM / DD | ☐ Unknown _____ | |

Cause of Death: (if Fatal was selected) _____

K) EXPOSURES

Acquisition Event

LHN-> INVESTIGATION-> EXPOSURE SUMMARY-> ACQUISITION QUICK ENTRY

Acquisition Event ID: _____

Exposure Name: _____

Acquisition Start YYYY / MM / DD **to Acquisition End:** YYYY / MM / DD

Location Name: _____

Setting Type

- ☐ Travel ☐ Exposure or consumption of potentially contaminated food or water ☐ Most likely source

Transmission Events

LHN -> INVESTIGATION-> EXPOSURE SUMMARY -> TRANSMISSION EVENT SUMMARY -> QUICK ENTRY

Transmission Event ID	Exposure Name	Setting type	Date/Time	# of contacts
		☐ Household ☐ Public Facility		
		☐ Household ☐ Public Facility		
		☐ Household ☐ Public Facility		
		☐ Household ☐ Public Facility		
	Amoebiasis Contacts – Inv ID# _____	☐ Multiple Settings	YYYY / MM / DD to YYYY / MM / DD	

L) TOTAL NUMBER OF CONTACTS

LHN -> INVESTIGATION-> EXPOSURE SUMMARY -> TRANSMISSION EVENT SUMMARY -> TE HYPERLINK -> UNKNOWN/ANONYMOUS CONTACTS

Anonymous contacts: _____ (total number of individuals exposed)

Initial Report completed by:		Date initial report completed: YYYY / MMM / DD
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