

Cryptosporidiosis

Reporting Obligations

Cryptosporidiosis is designated as a disease of public health significance and is reportable under the *Ontario Health Protection and Promotion Act*. Report all suspect and confirmed cases **within one business day** to the health unit.

REPORTING FORM

Epidemiology

Aetiologic Agent:

Cryptosporidium are oocyst-forming coccidian protozoa. Oocysts are excreted in feces of an infected host. The most common species causing disease in humans are *C. hominis*, which only infects humans, and *C. parvum*, which infects humans, cattle, and other mammals.

Oocysts may survive for 2 to 6 months in a moist environment. *Cryptosporidium* is resistant to most disinfectants including 3% hypochlorite, iodophors, and 5% formaldehyde and can survive for days in treated recreational water venues.

The infectious dose is low; studies have demonstrated that the ingestion of ≤ 10 *C. hominis* or *C. parvum* oocysts can cause infection in healthy persons.

Clinical Presentation:

Cryptosporidiosis is a parasitic infection that commonly presents as gastroenteritis. The major symptom is diarrhea associated with cramping and abdominal pain. In children, diarrhea can be watery and profuse preceded by anorexia and vomiting. General malaise, fever, anorexia, nausea, and vomiting occur less often. Symptoms often wax and wane but remit in less than 30 days in most immunologically healthy people. Asymptomatic infections are common and constitute a source of infection for others.

In immunodeficient persons, especially those infected with HIV, who may be unable to clear the parasite, the disease has a prolonged and fulminant clinical course contributing to death. Patients with AIDS who have cryptosporidiosis have a wide spectrum of disease depending on the site of infection and the CD4+ T-cell count. Among the immunocompromised (e.g., those who are HIV positive or have AIDS), symptoms can also relapse.

This parasite can also cause extraintestinal complications involving the gallbladder, biliary tree, and pancreatic ducts.

Modes of transmission:

Fecal-oral, which includes person-to-person, animal-to-person, waterborne (recreational or drinking water) and foodborne transmission.

Incubation Period:

Not known precisely; 1 – 12 days is the likely range with an average of about 7 days.

Period of Communicability:

Oocysts, the infectious components of the parasite's life cycle, appear in stool at the onset of symptoms and are infectious immediately upon excretion; duration of post-symptomatic oocyst excretion varies from several weeks to up to 60 days. The duration of oocyst infectiousness in the environment under suitable soil

conditions can range from 2 to 6 months.

Symptoms can last for 30 days or less in healthy hosts, or longer in immunocompromised. Mean duration has been reported as 12.7 days or up to a month in healthy adults, relapse/recurrence can occur after an asymptomatic period. Among the immunocompromised (e.g., those who are HIV positive or have AIDS), symptoms can be chronic/relapsing.

Risk Factors/Susceptibility

Persons with intact immune function usually have asymptomatic or self-limiting illness. It has been estimated that 10-20% of AIDS patients develop infection at some time during their illness. Those who are particularly prone to infection include children under two, animal handlers, travelers, men who have sex with men and close personal contacts of infected individuals (family, healthcare, and daycare workers).

- Anal-oral contact (sexual)
- Animal contact
- Close contact with case
- Consumption of potentially contaminated water; unpasteurized milk or milk products; unpasteurized juice or cider; raw, unwashed produce
- Recreational water contact
- Poor hand hygiene
- Travel outside the province within the last 12 days

Diagnosis & Laboratory Testing

Diagnosis is through demonstration of *Cryptosporidium* oocysts in appropriate clinical specimen (e.g., stool, intestinal fluid, or small bowel biopsy) through microscopy or through detection of *Cryptosporidium* DNA or demonstration of *Cryptosporidium* antigen by an approved method (e.g., EIA, ICT).

TESTING INFORMATION & REQUISITION

Treatment & Case Management

Treatment is under the direction of the patient's health care provider. There is no specific treatment except rehydration when indicated.

Inform patient that symptomatic cases will be excluded from conducting activities in high-risk settings such as the food industry, healthcare, or daycare, until 24 hours after diarrhea resolves. Cases should not use recreational water venues (swimming pools, lakes, and rivers) for 2 weeks after symptoms resolve.

Assess household members and contacts who may have shared a common source exposure. Symptomatic contacts that are food handlers, healthcare workers, daycare staff and attendees should be assessed by their healthcare provider to determine if infected and should be excluded as above.

Provide education about the illness and how to prevent the spread of infection. This includes proper hand hygiene after toileting, diapering, handling pets and before/after handling food; washing produce; cooking thoroughly all food derived from animal sources; avoiding consumption of surface water without prior treatment; and regular testing of private water samples.

Public Health will investigate cases to determine the source of infection.

Patient Information

PATIENT FACT SHEET

References

1. Ministry of Health. *Infectious Diseases Protocol - Ontario Public Health Standards*. 2022.
2. Simcoe Muskoka HealthSTATS: *Cryptosporidiosis*
3. PHO. "Cryptosporidiosis". Dec 2022.