

CYCLOSPORIASIS FACT SHEET

Agent: *Cyclospora cayetanensis* is a coccidian parasite.

Brief Description: *Cyclospora* infections are characterized by watery diarrhea, with frequent, sometimes explosive, stools. Other symptoms include loss of appetite, substantial weight loss, bloating, increased flatus, stomach cramps, nausea, fatigue, low-grade fever and vomiting. Diarrhea may last 9-43 days in otherwise healthy persons, but it may continue for months in immunocompromised persons. Asymptomatic and relapsing infections occur. Most reported cases have occurred during spring and summer.

Reservoir: Humans. It is unknown whether animals can be infected and pass infection to people.

Mode of Transmission: *Cyclospora* may be transmitted by ingestion of water or food contaminated with oocysts. Infected persons excrete the oocyst stage of *Cyclospora* in their stool. Oocysts are not infectious when first excreted and may require days to weeks to become infectious. Thus, direct person-to-person transmission is unlikely. Outbreaks linked to contaminated water and various types of fresh produce have been reported. Food vehicles have included raspberries imported from Guatemala, basil, and lettuce.

Incubation period: Median is about 1 week.

Laboratory Criteria for Diagnosis:

The diameter of *Cyclospora* oocysts is 8–10 μm , approximately twice that of *Cryptosporidium parvum*. *Cyclospora* oocysts can be identified in stool by examination of wet mounts under phase microscopy, use of modified acid-fast stains, or demonstration of autofluorescence with ultraviolet epifluorescence microscopy. These procedures are not routine for most clinical laboratories. The Georgia Public Health Laboratory can confirm the diagnosis using a modified Kinyoun acid-fast stain and epifluorescence. Polymerase chain reaction (PCR) may also be used if other methods cannot confirm the

presence of the parasite. For intestinal parasite testing, three consecutive day's samples are needed due to the shedding pattern of the organisms.

Diagnostic Testing:

1. Specimen Needed: Feces
2. Outfit: IP & PVA outfit
3. Lab Form: #3414
4. Lab Test Performed: Identification of *Cyclospora*
5. Laboratory: Parasitology, Georgia Public Health Laboratory

Comment: It is important that it be specified on the laboratory request that testing for *Cyclospora* is desired. Identification of this parasite in stool requires special laboratory tests that are not done routinely. A single negative stool specimen does not rule out the diagnosis; three or more specimens may be required. Stool specimens should also be checked for other microbes that can cause a similar illness.

Case Classification:

- **Probable:** A clinically compatible case that is epidemiologically linked to a confirmed case
- **Confirmed:** A case that is laboratory confirmed

NOTE: For outbreaks associated with an event (involving a confirmed case), a probable case of cyclosporiasis may be defined as onset of illness from 1 to 14 days after the event and:

- a. A stool specimen with *Cyclospora* oocysts and at least one gastrointestinal symptom (i.e., loose or watery stools, nausea, vomiting, stomach cramps, gas/bloating, loss of appetite, or unintentional weight loss) or constitutional symptom (i.e., fever, chills, muscle aches, joint aches, generalized body aches, headaches, or fatigue), or

- b. Three or more loose stools in a 24-hour period and at least one other GI symptom or constitutional symptom, or
- c. A total of 4 or more GI symptoms.

Period of Communicability:

Although *Cyclospora* is transmitted by the fecal-oral route, direct person-to-person transmission is unlikely because *Cyclospora* oocysts are not infectious at the time of excretion.

Treatment: Trimethoprim/sulfamethoxazole (TMP/SMX), or Bactrim, Septra, or Cotrim is effective. Patients with immunosuppression may require higher doses and long-term maintenance treatment. No alternative treatment regimen has been identified for patients who do not respond to or are intolerant of TMP/SMX.

Investigation and Follow-Up: Ensure that ill persons are aware of the *Cyclospora* diagnosis as soon as it is confirmed, so that their physicians can provide appropriate treatment. Notify CDC when an outbreak is suspected, as it is possible that related outbreaks are occurring simultaneously in other states. Investigate cases to determine the possible source of infection. Take note of seasonal produce originating from a domestic or international location. Initiate traceback on implicated food vehicle(s) through the Food and Drug Administration (FDA).

Reporting: Report single confirmed cases **WITHIN 7 DAYS** electronically through the State Electronic Notifiable Disease Surveillance System (SENDSS) at <http://sendss.state.ga.us>, or complete and mail a GA Notifiable Disease Report Form (#3095). **IMMEDIATELY** report any cluster of cyclosporiasis by telephone to the local health department, District Health Office, or the Epidemiology Branch at 404-657-2588. If calling after hours, report cases to the Epidemiology Branch answering service at 770-578-4104. If applicable, complete CDC form 52.13, “Investigation of a Foodborne Outbreak,” and fax to

the Epidemiology Branch as soon as possible.

Reported Cases of Cyclosporiasis in Georgia, 1993-2000

Year	Number of Cases
1993	0
1994	0
1995	0
1996	0
1997	0
1998	0
1999	10
2000	11

References:

1. Centers for Disease Control and Prevention. Case Definitions for Infectious Conditions under Public Health Surveillance. *MMWR* 1997;46(No. RR-10):1-55.
2. Centers for Disease Control and Prevention. Outbreak of Cyclosporiasis — Northern Virginia-Washington, DC- Baltimore, Maryland, Metropolitan Area, 1997. *MMWR* 1997;46(30):689-691.
3. Centers for Disease Control and Prevention. Outbreaks of Pseudo-Infection with *Cyclospora* and *Cryptosporidium* – Florida and New York City, 1995. *MMWR* 1997;46(16):354-358.
4. Chin J, ed. Cyclosporiasis. In: Control of Communicable Diseases Manual. 17th ed. Washington, DC: American Public Health Association, 2000: 137-138.
5. Herwaldt BL. *Cyclospora cayetanensis*: A Review, Focusing on the Outbreaks of Cyclosporiasis in the 1990s. *Clinical Infectious Diseases* 2000;31(4):1040-1057.

Links:

- CDC Cyclosporiasis Fact Sheet <http://www.cdc.gov/ncidod/dpd/parasites/cyclospora/default.htm>

