



Department of Health

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TO: Healthcare Providers, Hospitals, and Local Health Departments (LHDs)

FROM: Bureau of Communicable Disease Control (BCDC)

HEALTH ADVISORY: INCREASE IN CYCLOSPORIASIS

Please distribute to the Infection Control Department, Emergency Department, Infectious Disease Department, Obstetrics/Gynecology (including Nurse Practitioners and Midwives), Family Medicine, Travel Medicine Service, Pediatrics, Director of Nursing, Medical Director, Laboratory Service, Pharmacy, and all patient care areas.

SUMMARY

- NYSDOH is investigating an increase of cyclosporiasis in the state. Cyclosporiasis is an intestinal infection caused by the parasite *Cyclospora cayetanensis*.
 - *Cyclospora* infects the small intestine and typically causes watery diarrhea, with frequent, sometimes explosive, stools. The parasite is endemic in tropical and subtropical regions of the world.
 - In the United States, *Cyclospora* infection is most common during the summer months and is usually transmitted by ingesting contaminated food or water.
- To date in 2019, 53 cases of cyclosporiasis have been reported in New York State outside of New York City, compared to 59 cases in all of 2018. Of these 53 cases, 40 have been reported since July 1.
 - Other state health departments and the Centers for Disease Control and Prevention are also investigating recent increases in cases.
 - In 2018, multiple outbreaks of cyclosporiasis were identified and found to be linked to different produce items.
 - Previous U.S. outbreaks of cyclosporiasis have been linked to various types of imported fresh produce (e.g., basil, cilantro, mesclun lettuce, raspberries, and snow peas).
- Testing for *Cyclospora* is not routinely conducted in most clinical laboratories, even when stool is tested for parasites. Similarly, not all gastrointestinal polymerase chain reaction (PCR) panels include a target for *Cyclospora*. Therefore, if indicated, health care providers should specifically request testing for *Cyclospora*.
- Healthcare providers must report cases of cyclosporiasis to the LHD where the patient resides. Contact information is available at https://www.health.ny.gov/contact/contact_information/.

EPIDEMIOLOGY

Cyclospora cayetanensis is a unicellular parasite that causes an intestinal infection called cyclosporiasis. Because *Cyclospora* is a coccidian parasite, infected people shed oocysts (rather than cysts) in their feces. These oocysts must mature (sporulate) outside the host, in the environment, to become infective for someone else. Therefore, direct person-to-person (fecal-oral) transmission of *Cyclospora* is unlikely. The process of sporulation requires approximately 1–2 weeks in favorable environmental conditions. *Cyclospora* infection is therefore most commonly transmitted by ingesting contaminated food or water, with recent outbreaks in the U.S. linked to various types of imported fresh produce.

Persons of all ages are at risk for infection. Persons traveling in the tropics and subtropics may be at increased risk because cyclosporiasis is endemic in some countries in these zones. Some infected persons are asymptomatic, particularly in settings where cyclosporiasis is endemic. Among symptomatic persons, the incubation period averages ~1 week (ranges from ~2–14 or more days). *Cyclospora* infects the small intestine and typically causes watery diarrhea, with frequent, sometimes explosive, stools. Other common symptoms include loss of appetite, weight loss, abdominal cramping/bloating, increased flatus, nausea, and prolonged fatigue. Vomiting, body aches, low-grade fever, and other flu-like symptoms may be noted. If untreated, the illness may last for a few days to a month or longer and may follow a remitting-relapsing course. Although cyclosporiasis usually is not life threatening, reported complications have included malabsorption, cholecystitis, and reactive arthritis.

Cyclospora is unlikely to be killed by routine chemical disinfection or sanitizing methods. Symptomatic reinfection can occur.

DIAGNOSIS

Cyclospora infection is diagnosed by examining stool specimens. Diagnosis can be difficult in part because even patients who are symptomatic might not shed enough oocysts in their stool to be readily detectable by laboratory examinations. Therefore, patients might need to submit several specimens collected on different days in order to diagnose cyclosporiasis.

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TREATMENT

Most individuals who have healthy immune systems will recover without treatment. If not treated, the illness may last for a few days to a month or longer. Symptoms may relapse. People who are in poor health or who have weakened immune systems may be at higher risk for severe or prolonged illness.

When indicated, trimethoprim-sulfamethoxazole (TMP-SMX) is the treatment of choice. The typical regimen for immunocompetent adults is TMP 160 mg plus SMX 800 mg (one double-strength tablet), orally, twice a day, for 7–10 days. HIV-infected patients may need longer courses of therapy.

No highly effective alternatives have been identified yet for persons who are allergic to (or are intolerant of) TMP-SMX. Approaches to consider for such persons include observation and symptomatic treatment, use of an antibiotic whose effectiveness against *Cyclospora* is based on limited data, or desensitization to TMP-SMX. The latter approach should be considered only for selected patients who require treatment, have been evaluated by an allergist, and do not have a life-threatening allergy.

REPORTING OF CASES

Healthcare providers should report cases of cyclosporiasis to the LHD where the patient resides. Contact information is available at https://www.health.ny.gov/contact/contact_information/. If you are unable to reach the LHD where the patient resides, please contact the NYSDOH Bureau of Communicable Disease Control at 518-473-4439 during business hours or 866-881-2809 evenings, weekends, and holidays.

PREVENTION

As for all consumers, patients should be counseled to always follow safe fruit and vegetable handling recommendations:

- **Wash:** Wash hands with soap and warm water before and after handling or preparing fruits and vegetables. Wash cutting boards, dishes, utensils, and counter tops with soap and hot water between the preparation of raw meat, poultry, and seafood products and the preparation of fruits and vegetables that will not be cooked.
- **Prepare:** Wash all fruits and vegetables thoroughly under running water before eating, cutting, or cooking. Fruits and vegetables that are labeled “prewashed” do not need to be washed again at home. Scrub firm fruits and vegetables, such as melons and cucumbers, with a clean produce brush. Cut away any damaged or bruised areas on fruits and vegetables before preparing and eating.
- **Store:** Refrigerate cut, peeled, or cooked fruits and vegetables as soon as possible, or within 2 hours. Store fruits and vegetables away from raw meat, poultry, and seafood.

If you have any questions regarding this information, please contact your LHD or the NYSDOH Bureau of Communicable Disease Control at (518) 473-4439 or via email at bcdc@health.ny.gov.