

Cyclosporiasis

Agent: *Cyclospora cayetanensis* (parasite)

Mode of Transmission: Can be foodborne or waterborne. *Cyclospora* are resistant to chlorine and iodine treatment and are unlikely to be killed by routine chemical disinfection or sanitizing methods. Direct person-to-person transmission has not been documented.

Signs/Symptoms: Profuse watery diarrhea commonly occurs, along with nausea, vomiting, anorexia, substantial weight loss, abdominal bloating or cramping, increased gassiness and prolonged fatigue. Low-grade fever occurs in approximately half the patients. Some infected persons are asymptomatic, particularly in settings where cyclosporiasis is endemic.

Prevention: Fresh produce should be washed thoroughly before it is consumed. No vaccine for cyclosporiasis is available.

Other Important Information: *C. cayetanensis* is known to be endemic in many resource-limited countries and has been reported as a cause of traveler's diarrhea. Most outbreaks reported in the U.S. have been associated with the consumption of imported fresh produce, including raspberries, basil, snow peas and lettuce. No commercially frozen or canned produce has been implicated as the source of an outbreak.

Cyclosporiasis: 2013 Data Summary	
Number of Cases:	4
5-Year Average Number of Cases:	1.4
% Change from 5-Year Average:	+186%
Incidence Rate per 100,000:	0.0

Four cases of cyclosporiasis were reported in 2013, which is the highest annual number of cases reported in the last 10 years. The four cases exceed the five-year average (1.4 cases) by 186%. Cases occurred in an adult male and female from the northwest region, an adult female from the northern region, and a male child in the central region. All of the case-patients reported consuming produce, but none of them reported international travel.

All four Virginia case-patients were part of a national cyclosporiasis outbreak investigation which assessed 631 persons infected with *C. cayetanensis* reported from 25 states. Conclusions from the investigation indicated that two separate cyclosporiasis outbreaks were occurring in the U.S. from June through August of 2013. One outbreak was found to be related to consumption of cilantro, while the second outbreak was restaurant-associated and linked to the consumption of a salad mix. Both products were produced in Mexico.

Most detected cases and outbreaks of cyclosporiasis in the U.S. have occurred in spring and summer months, but not all cases identified during the same time of year are necessarily caused by the same exposure. CDC and other institutions are working to develop advanced molecular detection methods for *C. cayetanensis* that could distinguish among strains of this parasite. In the future, DNA fingerprinting methods could help public health investigators determine whether cases of cyclosporiasis are linked to each other and to particular food items or other sources of infection.