



**TO:** Primary Care Providers, Infectious Disease Personnel, Laboratories, Infection Control,  
Local Health Departments

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**RE:** Enhanced surveillance for *Cyclospora cayetanensis* infections

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### **Background:**

In 2013, the United States had a multi-state outbreak of cyclosporiasis, involving 25 states and 631 patients, including 87 cases in Nebraska. Cyclosporiasis is a food or waterborne parasitic illness, caused by *Cyclospora cayetanensis*. Although not endemic to the United States, exposure can occur through food imported from countries where *Cyclospora* is endemic. Outbreaks in the United States typically occur during the growing seasons in those countries, when fruits and vegetables are being exported. The 2013 cases were traced to produce imported from Mexico. Since the growing season in Mexico is beginning, we are requesting renewed vigilance for cases of *Cyclospora* infection.

### **Clinical Presentation:**

Cyclosporiasis typically presents with watery diarrhea; the average incubation period is 7 days (range 2 days to  $\geq 2$  weeks) after ingestion of sporulated oocysts. Other symptoms include loss of appetite, weight loss, cramping, bloating, flatulence, nausea, and fatigue. Occasionally patients experience vomiting or low-grade fever. Untreated, symptoms can persist for several weeks to a month or more.

### **Diagnosis:**

Diagnosis of cyclosporiasis requires a stool sample. The most common presumptive diagnostic method to screen for *Cyclospora* infection is an Ova and Parasite (O&P) exam wet mount. Suspicious wet mounts are subsequently confirmed as *Cyclospora* using a modified acid-fast stain of the O & P concentrate. In this technique, the oocysts are stained with modified acid-fast techniques, enabling detection on microscopic examination. The organism will also fluoresce when examined under fluorescent light microscopy. Polymerase chain reaction (PCR) has also been used to detect *Cyclospora* infection. Many laboratories do not routinely test for *Cyclospora*, even when testing for parasites is requested. If *Cyclospora* infection is suspected, testing for this parasite should be specifically requested. Additionally, because low-level shedding is common, patients might need to provide several specimens collected on different days.

In a patient with prolonged watery diarrhea where other causes (including Giardia, cryptosporidium, and other parasitic diseases) have been ruled out, consideration should be given to *Cyclospora* infection. Suspicious stool samples should be submitted to the Nebraska Public Health Laboratory (NPHL) for testing by the modified acid-fast method. Stool samples testing positive for *Cyclospora* by the modified acid-fast method (at laboratories other than NPHL) should also be forwarded to NPHL for confirmatory testing. Ideally, 10 ml of stool should be placed into a preservative such as Proto-fix (available from Regional Pathology Services) and the remainder maintained and shipped under refrigeration (i.e. cold packs). Unpreserved samples will allow for further molecular testing if indicated. For the submission, please use the NPHL Special Microbiology Requisition (<http://dhhs.ne.gov/publichealth/EPI/Documents/NPHLTestRequisition.pdf>) with a request for “*Cyclospora* Confirmation Testing.”

Laboratories and clinicians should immediately report newly identified cases to their local health department or the Nebraska Department of Health and Human Services, Office of Epidemiology (Phone: 402-471-2937, Fax: 402-742-2347).

Our public health tracking system routinely identifies an increase in enteric diseases caused by organisms such as Salmonella, *E. coli* 0157, *Campylobacter*, and parasites during the summer months. Clinicians should be alert to these illnesses, and pursue appropriate laboratory diagnostic testing, to include a parasitic disease workup when indicated. In addition to rapid diagnostic tests for giardiasis and cryptosporidiosis, laboratories should consider wet mount tests to identify amoebiasis and cyclosporiasis.

Additional information about cyclosporiasis and the 2013 outbreak are available from CDC at the following URL: <http://www.cdc.gov/parasites/cyclosporiasis/>.