

Cryptosporidiosis Associated with a Swim Pond

July

Washington County

Routine surveillance interviews of two laboratory-confirmed *Cryptosporidium* cases conducted by the Minnesota Department of Health (MDH) on July 24, 2012 revealed that both cases had gone swimming at a swim pond in Lake Elmo, Minnesota during the 2 weeks prior to illness onset. Reported swim dates were July 1 for one case and July 9, 10, and 11 for the other case. Sanitarians from Washington County Department of Public Health and Environment were contacted on July 26, and an outbreak investigation was initiated.

Contact information for individual swim pond users was not available; however, contact information for swim pond user groups was provided to Washington County and MDH by the swim pond. MDH staff contacted swim pond user group leaders in order to do additional case finding. Cases of cryptosporidiosis that were identified through routine surveillance were interviewed to determine if they had exposure to the swim pond. A case was defined as a swim pond user who developed either a laboratory-confirmed *Cryptosporidium* infection or diarrhea (≥ 3 loose stools in a 24-hour period) or vomiting lasting 3 or more days, with illness onset 2 to 14 days following swim pond exposure.

Washington County sanitarians visited the swim pond on July 26 and 27 to conduct a field assessment of the facility and to interview staff regarding recent illness and job duties. A list of swim pond employees was provided to Washington County by the swim pond.

Five cases were identified, including two cases that tested positive for *Cryptosporidium* at a clinical laboratory; *Cryptosporidium parvum* subtype BGP3 was identified in both specimens at the MDH Public Health Laboratory.

Of the cases, all five reported diarrhea, four (80%) reported vomiting, three (60%) reported abdominal cramps, two (50%) of four reported weight loss, and one (20%) reported blood in their stools. No one reported fever. Reported onset dates ranged from July 3 to July 17. Reported swim dates ranged from July 1 to July 11. The median incubation period was 3 days (range, 2 to 4 days) for the four cases with only one reported swim date. The median duration of illness was 7 days (range, 7 to 19 days) for the three cases who had recovered by the time of interview. Four (80%) cases reported visiting a health care provider for their illness, including one case who was hospitalized for 4 days.

MDH attempted to contact the group leaders of organizations that had registered with the swim pond; none of the group leaders who returned the calls reported knowing of any children developing gastrointestinal illness after being at the swim pond.

On July 26, the swim pond voluntarily closed in order to be superchlorinated at 20 parts per million for 12.75 hours, the necessary chlorine level and time needed to inactivate *Cryptosporidium*. A press release issued by the county alerted patrons to the swim pond closing and of the importance of anyone with diarrhea staying out of all recreational water venues while they are symptomatic and for 2 weeks following the resolution of symptoms.

A swim pond is an artificial body of water contained within a lined, sand-bottom basin, intended for public swimming, relaxation, or recreational use. Swim ponds include a water circulation system for maintaining water quality and do not include any portion of a naturally occurring lake or stream. Swim ponds are exempt from the regulatory requirements that public pools must follow.

Despite not being routinely inspected, MDH, or its designee, has statutory authority to investigate waterborne outbreaks at swim ponds. Upon inspection, the swim pond was found to be operating at low chlorine levels. Review of chemical records from June and July found numerous instances in which the chlorine level was recorded at zero, with varying chlorine levels across the zones of the swim pond; no corrective action was indicated.

Eleven swim pond staff were interviewed about recent illness and job duties. No one reported being recently ill with diarrhea or vomiting.

The swim pond reopened on July 28. Signage was posted at the facility alerting patrons not to swim if they were experiencing diarrhea and for 2 weeks following the resolution of symptoms.

This was an outbreak of cryptosporidiosis associated with swimming at a swim pond. Although the original source of contamination was not identified, an infectious swim pond user most likely introduced the parasite into the swim pond. The lack of uniform and consistent disinfection most likely contributed to the outbreak.