

***Cryptosporidium parvum* Outbreak Among a High School Swim Team, Sarasota County, August-September 2008**

On September 8, 2008, a single confirmed case of cryptosporidiosis in a swim team member/public pool employee was reported to the Sarasota County Health Department (SCHD). The case's disease onset was August 15th, with symptoms of bloody diarrhea, abdominal pain, cramps, chills, and nausea. The suspected exposures were the ongoing use of public pool A and swimming in Lake Mead, NV on August 8, 2008. The index case's symptoms resolved September 5th. During the symptomatic and infectious period, the case swam almost daily at public pool A with a high school swim team and periodically worked at the pool as a life guard.

Interviews of all team members, indicated 13 children reported symptoms of gastrointestinal (GI) illness since August 1st. Symptoms included diarrhea (100%), abdominal pain (69%), nausea (31%), and vomiting (31%). No fevers (>100.4 F) were measured. Average duration of symptoms was 10 days, a median of 8.5 days, with a range of 3-20 days. Six stool ova & parasite specimens were collected from cases, two of which tested positive for *Cryptosporidium parvum*.

Further case finding efforts at public pool A attempted to identify pool staff and members with GI illness. Signs were posted at the entrance to the building asking persons with symptoms of GI illness to report to the pool staff and call the SCHD. Pool staff were surveyed by pool management. No additional reports of illness were received from members or staff of public pool A. No symptomatic household contacts or other close contacts of cases were reported.

During this outbreak disease control measures included: the exclusion of ill team members from swimming for two weeks after resolution of symptoms; voluntary cancellation of meet participation and practices; the correction of environmental health violations and super-chlorination of the pool; and education regarding good hygiene practices.

Legionellosis in Wedding Attendees, Orange and Pinellas counties, March 2008

On March 11, 2008, the Pinellas County Health Department (PCHD) Epidemiology Program was notified by a local hospital of a laboratory-confirmed case of Legionnaires' disease with onset on March 7th.

On March 12th, an infection control practitioner at the same hospital reported an additional laboratory-confirmed case of Legionnaires' disease with onset of March 9th. Both people were Canadian residents who had recently attended a wedding in Orlando, Florida and stayed at Hotel A. Further investigation revealed confirmed Legionnaires' disease cases in another wedding guest from Canada and a United Kingdom resident who had both stayed at Hotel A during the same time period. A letter was distributed to all guests staying in the hotel between February 27th and March 15th, which helped identify one probable Legionnaires' disease case. Environmental, epidemiological, and laboratory investigations were undertaken in an attempt to determine the source of infection.

Epidemiologic data indicate that the source of the outbreak was the outdoor hot tub at Hotel A. The only common exposure among the five affected people was staying at this hotel between February 23rd and March 8th, 2008. No common exposures outside Hotel A were identified. There was a statistically significant association between spending time in the hotel's hot tub and acquiring Legionnaires' disease (odds ratio = 22.11, 95% confidence interval = 1.22-1569.46, p-value = 0.0162). Environmental inspection observations at the hotel support the biological plausibility of a causal association of the hot tub with illness. The chlorine levels observed in the hot tub at the time of inspection were not sufficient for disinfection, which could allow *Legionella* bacteria to thrive in the warm water. The existing design of the filters and water flow of the hot tub created a condition where a large volume of water was passing through an insufficiently sized filter. The hot tub therapeutic jets produce aerosolized water droplets, less than 5 µm, which can be inhaled. Environmental sampling did not yield any positive laboratory results, though this could be due to laboratory or sampling error. Negative results could also mean that the organism was not present in detectable quantities for the testing methods used, or the organism was not present at time of sampling. This outbreak highlights the risk for transmission of *Legionella* bacteria from an inadequately maintained hot tub. It is critical that all pools, hot tubs, spas, and whirlpools be properly maintained on a regular basis in a prescribed manner to prevent transmission of disease.

For more information about this investigation please visit

Eisenstein L, Bodager D, "Outbreak of Legionellosis Associated with Exposure to a Hotel Outdoor Hot Tub, Orange County, Florida, March 2008", *Florida Journal of Environmental Health*, Fall, 2008, Issue 200, p. 14-19.