CRYPTOSPORIDIOSIS OUTBREAK IN UTAH

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CRYPTOSPORIDIOSIS

Cryptosporidiosis is a nationally notifiable gastrointestinal illness caused by chlorine-resistant protozoa of the genus Cryptosporidium.
Fecal-oral transmission of *Cryptosporidium* occurs via ingestion of contaminated recreational water, drinking water, or food, or via contact with infected persons or animals (e.g., cattle).
SYMPTOMS

Cryptosporidiosis usually affects the small intestines and is typically an acute short-term infection.

Symptoms include:

- **watery diarrhea**
- stomach cramps and pain
- dehydration
- nausea
- vomiting
- fever
- weight loss

In some cases, people with crypto may have no symptoms. However, symptoms are particularly severe and often fatal in immunocompromised individuals.
ONSET AND DURATION

- Generally, symptoms appear 2 to 10 days (average 7 days) after infection.
- Symptoms usually last about 1 to 2 weeks (person with a healthy immune system).
- Symptoms may go in cycles.
THE UTAH DEPARTMENT OF HEALTH (UDOH)

• June – December 2007
  – 1,902 cases of laboratory-confirmed cryptosporidiosis

• Case Definition
  – Lab confirmed infection in residents with illness onset or report date during May 23 – December 19, 2007
THE PATIENTS

Patients were residents of all 12 local health districts in Utah.

- The median age of patients was 9 years
- 32% (617) were aged 5 years or less
- 51% (953 of 1,878) of patients were female.

ILLNESS DATA

Follow-up interviews provided additional data on 1,650 cases.

- 8% (97 of 1,144) of patients were hospitalized

- 80% (1,209 of 1,506) of patients reported exposure to a total of approximately 450 recreation water venues within 14 days before illness onset
  - 90% (1,093 of 1,209) reported exposure to treated recreational water venues.

- 20% (136 of 686) of patients reported that they swam while ill with diarrhea
INITIAL CONTROL MEASURES

Initial control measures began in late July, after UDOH received the first eight case reports. These measures included:

1) Local press release instructing the public not to swim while ill with diarrhea
   — Released on August 10 & August 17

2) Communication with health-care providers to request increased *Cryptosporidium* testing

3) Hyperchlorination of treated recreational water venues in which patients had swum while ill

RESULTS OF INITIAL CONTROL MEASURES

Incident rates continued to increase through late August.
INTENSIFIED CONTROL MEASURES

Intensified Control Measures were implemented in 10 of the 12 health districts on August 28. These measures included:

1) Banning children aged less than 5 years and anyone needing diapers from swimming in public treated recreational water venues
   – First known ban in the United States

2) Requiring all public treated recreational water venues to hyperchlorinate weekly and to post educational signs about healthy swimming behaviors and cryptosporidiosis

3) Asking child care programs to suspend all water-play activities and enforce diarrhea-exclusion policies.
IMPLEMENTATION CHALLENGES

Challenges to implementation and enforcement of the ban included:

1) Difficulty in notifying all operators in a timely manner because of a lack of contact information for pool operators in some health districts

2) Lack of cooperation from some patrons

3) Initial resistance from some operators who feared a lack of cooperation from patrons, decreased attendance, and lost revenue.
EFFECT OF CONTROL MEASURES

Rate of incidence decreased after implementation of intensified control measures

- Rates continued to decrease after outdoor pools closed on September 4, the day after Labor Day.

- Neither sustainability nor the effectiveness can be determined due to additional factors.
CONCLUSION

Preventing transmission of this chlorine-resistant parasite requires control measures that will:

• limit contamination of the water
• decrease swimmers' ingestion of contaminated water.

Education on healthy swimming behaviors are a cornerstone to cryptosporidiosis prevention and control.
REFERENCES


Additional Resources

• Cryptosporidium
  http://www.cdc.gov/parasites/crypto/index.html
• Recreational Water Illnesses
  http://www.cdc.gov/healthywater/swimming/rwi/
• Swimmer Protection
  http://www.cdc.gov/healthywater/swimming/protection/index.html
ANY QUESTIONS