

Outbreak Control Measures: Intensified Cryptosporidiosis (Crypto) Control Measures for the Child Care Setting

Cryptosporidiosis (Crypto) is a gastrointestinal illness caused by the parasite, *Cryptosporidium*. This illness is a common cause of diarrhea in children, especially in child care settings. The hallmark symptom of Crypto is watery diarrhea, which might be accompanied by stomach ache, nausea and vomiting, fever, and a general sick feeling. Healthy people infected with the parasite almost always get better without any treatment but treatment is available by prescription. An unusual feature of Crypto is that some people seem to get better only to have the diarrhea come back in a few days. Symptoms can come and go for up to 30 days, but usually subside in 1 to 2 weeks. However, Crypto can be a severe and prolonged disease in persons with weakened immune systems, such as those with AIDS or those taking drugs that suppress the immune system.

Because the parasite is in feces, anything that gets contaminated by feces can potentially spread the parasite. As a result, the parasite can be spread directly from person to person, through contact with contaminated objects (e.g., toys), or by swallowing contaminated water (drinking and recreational) or food. Crypto outbreaks in child care settings are most common during late summer/early fall (August/September) but might occur at any time. The spread of infection is highest among young children who are not toilet trained and their caregivers (those who change diapers).

Cryptosporidium is resistant to chlorine disinfection so it is tougher to kill than most disease-causing germs. The usual disinfectants, including most commonly used bleach solutions, have little effect on the parasite. An application of hydrogen peroxide seems to work best.

If an outbreak of Crypto occurs in the child care setting:

- Educate staff and parents.
 - Inform all staff about the ongoing outbreak, the symptoms of Crypto, how infection is spread, and control measures to be followed.
 - Inform parents about the ongoing outbreak, the symptoms of Crypto, how infection is spread, outbreak control policies, and needed changes in hygiene and cleanliness.
 - Notify parents of children who have been in direct contact with a child or an adult caregiver with diarrhea. Parents should contact the child's healthcare provider if their child develops diarrhea.
 - Inform staff and parents of children about Crypto's potential to be a severe disease in people with weakened immune systems. Immunocompromised persons should consult their healthcare provider for further guidance.
- Exclude any child with diarrhea from the child care setting until the diarrhea has stopped.
 - Children who are infected with the parasite but who do not have diarrhea may be allowed to return.
 - Recently returning children can be grouped together in one classroom to minimize exposing uninfected children to the parasite.
 - Move adults with diarrhea to jobs that minimize opportunities for spreading infection (for example, administrative work instead of food preparation).
- Terminate all water play or swimming activities — this includes any play or activities involving water tables, temporary inflatable or rigid fill-and-drain swimming pools and slides, or public pool visits. The water can become contaminated and facilitate the spread of germs.
 - Exclude children diagnosed with Crypto from water-play and swimming activities for an additional 2 weeks after their diarrhea has resolved.
- Practice good hygiene.

Note: The hand-washing and diapering measures outlined below should be routine but are especially important during outbreaks.

- Reinforce frequent hand washing and good hand washing technique for all children and adults.
- Good hand washing means
 1. Wet your hands with clean running water and apply soap. Use warm water if it is available.
 2. Rub hands together to make a lather and scrub all surfaces, including under the fingernails.
 3. Continue rubbing hands for 20 seconds. Need a timer? Imagine singing “Happy Birthday” twice through to a friend!
 4. Rinse hands well under running water.
 5. Dry your hands using a disposable paper towel or a hand dryer.
 6. Use your disposable paper towel, if possible, to turn off the faucet.
- Note:** *Cryptosporidium* is not killed by alcohol gels and hand sanitizers so these materials are of little use in controlling an outbreak.
- For children
 - Observe hand washing or assist when needed.
 - Wash children’s hands when they first arrive at the child care setting, after they use the toilet, after having their diapers changed, and before eating snacks or meals.
- For adults
 - Wash hands after using the toilet, after helping a child use the toilet, after diapering a child, and before handling or eating food. Note: Where staffing permits, people who change diapers should not prepare or serve food.
- Reinforce good diapering practices.
 - Separate diaper-changing areas from children’s play and food preparation areas.
 - Use disposable gloves and change them after each diaper change.
 - Use disposable paper over diaper changing surfaces and change it after each diaper change.
 - Ensure children wear clothing over their diapers to reduce the opportunity for leakage.
 - Wash hands: both yours and the child’s after each diaper change.
- Disinfect surfaces and objects.

Note: The health department may instruct you to soak contaminated surfaces for 20 minutes with a 3% hydrogen peroxide (99% kill rate) and then rinse them thoroughly. No disinfectant is guaranteed to be completely effective against *Cryptosporidium*. However, hydrogen peroxide is more effective than standard bleach solutions.

Note: Do not mix hydrogen peroxide and bleach solutions. The two chemicals may react violently. In certain situations (for example, if an outbreak is caused by two or more types of germs), the health department may instruct you or a child-care facility to disinfect surfaces and objects with both hydrogen peroxide and a bleach solution. If so, disinfect with the bleach solution first and thoroughly rinse with water. Then soak with hydrogen peroxide for 20 minutes and thoroughly rinse with water.

Note: Hydrogen peroxide breaks down when exposed to sunlight. Store hydrogen peroxide in dedicated opaque containers — never reuse containers for a different chemical.

 - Disinfect
 - Bathrooms, diaper-changing areas, and food preparation surfaces daily.
 - Toys, tabletops, and high chairs more frequently than usual (at least twice daily).
 - Dishwasher-safe toys in a commercial dishwasher that has a dry cycle or a final rinse that exceeds 113°F for 20 minutes or 122°F for 5 minutes or 162°F for 1 minute.
 - Cloth toys may be washed and heat-dried on the highest clothes dryer heat setting for 30 minutes.
- Notify the state or local health department about an excessive level of diarrhea or any Crypto cases in a daycare. Crypto is a nationally reportable disease.