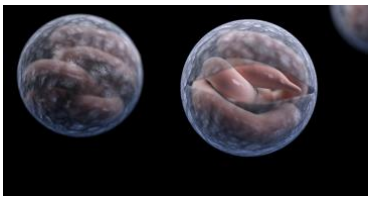
CCU DISEASE HUNTERS

CRYPTOSPORIDIUM

The following information was taken from the CDC website:

Overview



Cryptosporidiosis is a diarrhea-causing disease that is spread through germs that live in the poop of infected people or animals. When a person swallows *Cryptosporidium*, or "Crypto" germs, they can become infected.

Symptoms of cryptosporidiosis generally begin 2 to 10 days (average 7 days) after infection and last 1 to 2 weeks. The most common symptom of cryptosporidiosis is watery diarrhea, but some people have no symptoms at all.

Contact your healthcare provider if you suspect that you have cryptosporidiosis. Most people with healthy immune systems will recover from cryptosporidiosis without treatment.

The best way to prevent the spread of *Cryptosporidium* in the home is by practicing good hygiene. Wash your hands at key times with soap and water, especially after using the toilet, after changing diapers, and before eating or preparing food, drinks, or ice.

Signs and symptoms

The most common symptom of cryptosporidiosis is prolonged, frequent, and watery diarrhea. Other symptoms include:

- Stomach cramps or pain
- Nausea
- Vomiting
- Fever
- Weight loss
- Dehydration

Crypto infections primarily affect the small intestine in the digestive tract. However, in people with weakened immune systems, Crypto infections can affect other areas of the digestive tract, such as the biliary tract or pancreas, or the respiratory tract.

People previously infected with Crypto can quickly make antibodies to fight off Crypto if infected again. When this happens, people who are reinfected have fewer or no symptoms.

When symptoms start and how long they last

Symptoms typically begin 2–10 days (average 7 days) after infection. Symptoms usually completely go away within 2–3 weeks (with a range of a few days to 4 or more weeks) in people with healthy immune systems. Symptoms can come and go for up to 30 days.

Severe symptoms

People with weakened immune systems who have severe cryptosporidiosis can develop chronic illness or even life-threatening problems with digesting or absorbing nutrients from food, as well as increasing weakness and loss of muscle (wasting). Examples of people with weakened immune systems include:

- People infected with HIV
- Cancer or transplant patients who take drugs that weaken the immune system
- People with inherited diseases that affect the immune system

The risk of developing severe disease depends on how weakened the immune system is.

How it spreads

Crypto germs infect the small intestines of people and animals. Millions of Crypto germs can be found in the poop of an infected person or animals. When other people or animals swallow Crypto germs, they can become infected.

Crypto can be found in water, food, soil, and on surfaces that have been contaminated with poop containing Crypto germs. Common ways Crypto is spread include:

- Swallowing contaminated water from recreational water sites, such as in pools or lakes
- Swallowing contaminated drinks (including water) or ice
- Eating contaminated food
- Touching your mouth with contaminated hands. Hands can become contaminated by:
    - touching contaminated objects — such as toys, bathroom fixtures, clothing or shoes worn in an infected animal's environment
    - changing diapers
    - caring for an infected person
    - caring for an infected animal — such as a calf, lamb, or goat kid

- Putting a contaminated object in your mouth

Infectious period

A person starts shedding Crypto in their poop when their symptoms, such as diarrhea, begin. Two weeks after their diarrhea or other symptoms have resolved, they are no longer infectious.

CCU Disease Hunter Screen information

Undergraduate students at Coastal Carolina University working with Dr Paul E. Richardson have developed a genomic based test to detect the parasite Cryptosporidium using primer specific for two genes in Cryptosporidium; COWP and SSU rRNA. Primers were identified from literature that were specific for Cryptosporidium. In the lab the students refined the method using polymerase chain reaction to amplify small genetic sequences to identify the parasite based on specific size DNA fragments. Water samples were collected, and DNA was isolated from the samples and screened for Cryptosporidium. If a band of the expected size was present, that was called a positive result.

Please Note: This test only detects the presence of the disease in water. Currently, we are studying the factors that are responsible for its presence and what level of parasite is needed to cause disease. This is a research project and not a clinical test. **This test CANNOT determine if there is a threat to the community**, it only determines the presence of the disease in a community. More work must be done before we can make those statements.

If you have any questions, please contact:

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Research Website
https://professorrichardsonresearch.com/