



## **CRYPTOSPORIDIOSIS** (krip-toe-spo-rid-ee-oh-sis)

### **What is Cryptosporidiosis?**

Cryptosporidiosis is a gastrointestinal illness caused by *cryptosporidium*, a microscopic parasite that can live in the intestines of humans and animals. Cryptosporidiosis, referred to as “crypto” occurs worldwide and is a common cause of waterborne (recreational and drinking water) in the United States.

### **What are the symptoms?**

The time from exposure to onset of symptoms is not known. The general range is 1-14 days (average of 7). Symptoms include diarrhea (often watery) and abdominal cramps. Fatigue, fever, nausea and vomiting occur less often. Blood in the stool is not a common sign of “crypto”. Some people have no symptoms of illness, yet can spread the illness to others.

In individuals who are have healthy immune systems, the median duration of diarrhea ranges from 5-10 days. Relapses may follow a diarrhea-free period of several days to weeks. Diarrhea can persist longer in individuals who are immunosuppressed.

The infectious form of the a one-cell organism called an oocyst (oh-oh-sist) appears at onset of symptoms and can be passed in the stool for several weeks (perhaps up to 2 months) after symptoms disappear. During this period, a person with cryptosporidiosis can spread the infection to others. In most people, shedding in the stool stops in about 2 weeks. Usually, during the normal course of illness, symptoms may come and go. This means that a person feels better with no or very few symptoms, then soon feels worse as symptoms return.

### **How is it spread?**

*Cryptosporidium* can be found in soil, food, water, or surfaces that have been contaminated with feces from infected humans or animals. Affected animals may include poultry and other birds, fish, reptiles, small mammals (dogs, cats, and rodents) and larger mammals (sheep, cattle). Individuals at greatest risk of exposure and illness are children under 2 years, animal handlers, healthcare workers, daycare or childcare staff, travelers and close personal contacts to infected persons.

The infectious dose of *cryptosporidium* is very low; perhaps as few as 10 oocysts can result in infection. Transmission occurs when anything that has come into contact with the stool of an infected person or animal is ingested or swallowed. Infection can occur directly by drinking water or unpasteurized cider/juices or eating food that has been contaminated with the parasite. It can also be spread indirectly by toys, doorknobs, water faucets, changing tables or other objects and surfaces that have been contaminated.

### **What is the treatment?**

Most healthy persons recover with supportive care - adequate nutrition, plenty of fluids and rest. Over-the-counter anti-diarrheal medications (such as Pepto-Bismol, Imodium or Kaopectate) may offer some relief of symptoms, but should be used only with recommendation of a physician.

A 3-day course of Nitazoxanide (Alinia®) has been approved by the US Food and Drug Administration (FDA) for the effective treatment of cryptosporidiosis-related diarrhea in adults and in children older than 12 months with healthy immune systems.

## How can cryptosporidiosis be prevented?

The infectious form of the parasite or oocyst has a protective outer shell, which allows it to survive outside the body for long periods of time. These hardy parasites are difficult to eliminate as they are very resistant to disinfection with chlorine or bleach. They can also survive in the environment for many months at varying temperatures, though they can be destroyed by freezing or boiling.

As with all diarrheal illnesses, children who attend childcare centers or adults who work in sensitive occupations should stay home until symptoms stop. Sensitive occupations include healthcare workers with direct patient contact, childcare staff, and food handlers.

## TIPS FOR PREVENTION

- Wash your hands with soap and water after using the toilet, changing diapers, and before eating or preparing food.
- Practice good hand hygiene after contact with **any** animal, especially newborn or young animals found in farms, pet stores or petting zoos.
- Adequately dispose of human and animal feces and soiled articles, such as diapers in a closed-lid container.
- Avoid swallowing unclean water from sources such as swimming pools, hot tubs, jacuzzis, lakes, rivers, springs, ponds, or streams contaminated with sewage or feces from humans or animals.
- Avoid swimming in pools if you have crypto and for at least 2 weeks after diarrhea stops. Remember, a person can pass crypto in their stool and contaminate water for several weeks after symptoms have stopped. *Cryptosporidium* can survive in chlorinated pools for several days, despite adequate water filtration systems.
- Take kids on frequent bathroom breaks. Teach them not to use the pool as a potty (toilet)!
- Avoid eating uncooked food.
- Rinse all vegetables and fruits thoroughly with uncontaminated water.
- Avoid preparing food for large groups of people when diagnosed with *Crypto*.
- Boil drinking water for 1 minute to kill the crypto parasite and make contaminated water safe to drink.
- **Do not drink unpasteurized milk, juice or cider.**
- Disinfect (or clean) objects, such as toys and other surfaces (i.e., bathroom fixtures, doorknobs, changing tables, diaper pails) that may be contaminated. Use 3% hydrogen peroxide solution and thoroughly rinse with clean water. Most commonly used commercial products, including bleach solutions have little effect on the *Crypto* parasite.
- Be a good teacher and role model to others!

### FOR MORE INFORMATION:

SCPH Communicable Disease Unit 330-375-2662

Centers for Disease Control and Prevention [www.cdc.gov](http://www.cdc.gov)

Mayo Clinic [www.mayoclinic.com](http://www.mayoclinic.com)

Minnesota Department of Health <http://www.health.state.mn.us/divs/idepc/diseases>

MEDSCAPE <http://emedicine.medscape.com/article/215490-overview>