

**FACTS**



**Cryptosporidium  
in  
Drinking Water**



Division of Epidemiology, Environmental and Occupational Health  
Consumer and Environmental Health Services

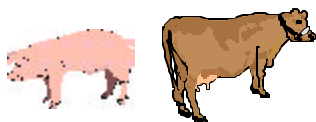
# **FACTS** Cryptosporidium in Drinking Water

<i>What Is Cryptosporidium?</i>	3
<i>Why Is Cryptosporidium a Concern in Drinking Water?</i>	4
<i>How Can You Become Infected with Cryptosporidium?</i>	5
<i>How Can Cryptosporidium Affect Your Health?</i>	6
<i>How Common Is Cryptosporidiosis?</i>	7
<i>Can Cryptosporidiosis Be Cured?</i>	8
<i>What Should You Do If Cryptosporidium is Found in Your Drinking Water?</i>	9
<i>How Else Can You Protect Yourself from Exposure to Cryptosporidium?</i>	10
<i>Are Home Water Filters and Bottled Water Effective Ways of Preventing Exposure to Cryptosporidium?</i>	11
<i>What Research is Currently Being Conducted on Cryptosporidium?</i>	12
<i>For More Information</i>	13
<i>Other Available Materials</i>	15

## WHAT IS CRYPTOSPORIDIUM?



***Cryptosporidium*** (pronounced krip-toe-spo-rid-ee-um) is a parasite that can live inside the intestines of humans, farm and wild animals, and pets.



Cryptosporidium can only be seen with a microscope; over 10,000 of them would fit on the period at the end of this sentence. The source of Cryptosporidium is animal or human fecal waste.



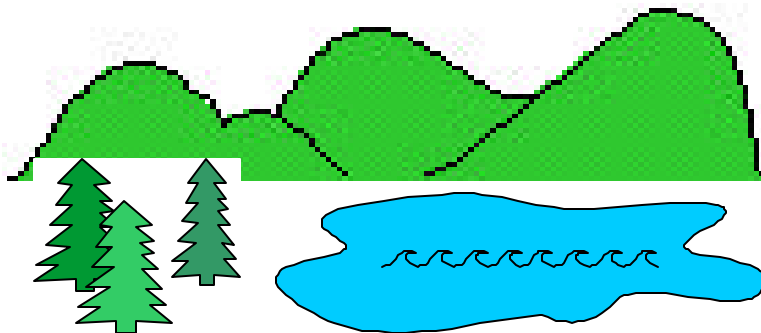
Cryptosporidium can form a protective shell, allowing it to survive under harsh conditions. As a result, Cryptosporidium has been found in water, soil, and food, after contamination with fecal waste. Unwashed hands can also carry Cryptosporidium following fecal contact.

**C**ryptosporidium parvum can cause serious health effects, including severe diarrhea, in some people. For example, people with HIV/AIDS, cancer and transplant patients, and individuals with certain immune deficiency diseases, are especially sensitive to exposure to Cryptosporidium. Boiling drinking water for one minute is an effective way of destroying the organism.

## WHY IS CRYPTOSPORIDIUM A CONCERN IN DRINKING WATER?

- Small numbers of Cryptosporidium from farm and wild animal waste are found in untreated drinking water sources, such as rivers, lakes, and reservoirs.
- Laboratory methods cannot yet quickly and accurately identify Cryptosporidium in drinking water.
- The filtration process used by treatment plants may not remove all Cryptosporidium from the drinking water supply. These unfiltered organisms may also survive chlorine treatment. However, it is difficult to know if any of the organisms that may be present have the ability to cause disease.

**S**ince Cryptosporidium is difficult to detect and completely remove, people could be exposed to Cryptosporidium in their drinking water before officials are aware of the problem.



## HOW CAN YOU BECOME INFECTED WITH CRYPTOSPORIDIUM?

Individuals can only become infected with Cryptosporidium by swallowing it. For example, it can get into your body by:

- *drinking contaminated water;*
- *eating contaminated food; or*



- *putting unwashed hands into the mouth after...*



*handling contaminated objects;*

*coming into direct contact with the feces of an infected person or animal; or*

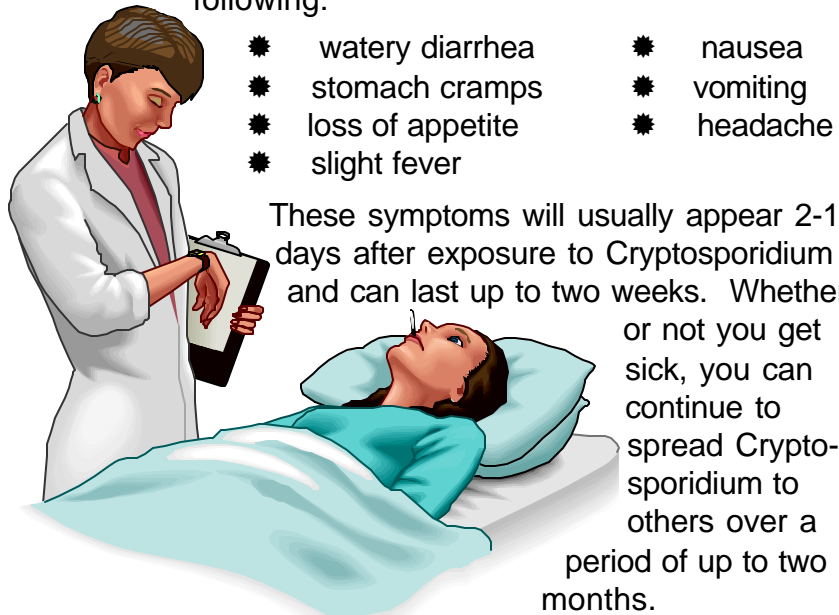
*touching contaminated soil.*

**C**ryptosporidium is not spread by coughing or sneezing, or through contact with blood.

## HOW CAN CRYPTOSPORIDIUM AFFECT YOUR HEALTH?

If you swallow *Cryptosporidium parvum*, you can get a disease called **cryptosporidiosis** (pronounced krip-toe-spo-rid-i-o-sis).

Like many intestinal diseases, the symptoms of Cryptosporidiosis can include one or more of the following:



- watery diarrhea
- stomach cramps
- loss of appetite
- slight fever
- nausea
- vomiting
- headache

These symptoms will usually appear 2-10 days after exposure to *Cryptosporidium* and can last up to two weeks. Whether or not you get sick, you can continue to spread *Cryptosporidium* to others over a period of up to two months.

**C**ryptosporidiosis can be a serious or even fatal disease for people with severely weakened immune systems. For example, people with HIV/AIDS, cancer and transplant patients, and individuals with certain immune deficiency diseases are especially sensitive to the effects of cryptosporidiosis.

**HOW COMMON IS CRYPTOSPORIDIOSIS?**

**A**lthough there have not been any reported cases of drinking water related cryptosporidiosis in New Jersey, there have been cases elsewhere in the U.S. The largest outbreak of cryptosporidiosis was in Milwaukee in 1993, when 400,000 people were reported to have been affected.

The exact number of people who get cryptosporidiosis each year is unknown.

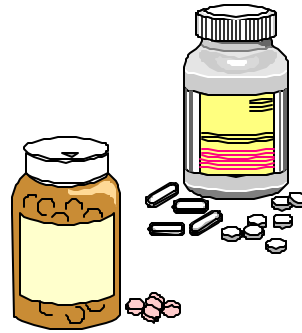
Cryptosporidiosis was first recognized as an illness in 1976.

Recently, New Jersey and many other states began to require that health care providers report all cases of cryptosporidiosis to their state and local health officials. Through careful monitoring of cryptosporidiosis outbreaks, health officials are able to investigate the cause of the illness.



## CAN CRYPTOSPORIDIOSIS BE CURED?

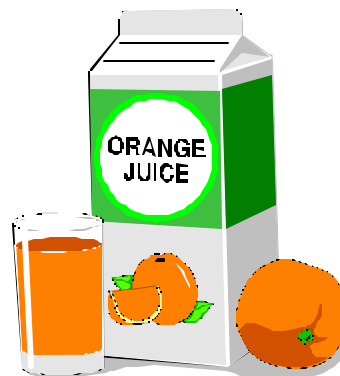
Currently, there is no cure for cryptosporidiosis. With a healthy immune system, the disease will usually run its course and the patient will recover on his or her own.



**Contact your doctor if you have persistent diarrhea or other symptoms of Cryptosporidiosis.**

Some drugs may reduce the symptoms of cryptosporidiosis. In addition, fluids, oral rehydration powders, “sports” drinks, and antidiarrheal medication can provide relief.

Persons with severe diarrhea or vomiting, especially those with weakened immune systems, may need special treatment from a doctor to replace fluids that are lost during the illness.





**WHAT SHOULD YOU DO IF CRYPTOSPORIDIUM IS FOUND IN YOUR DRINKING WATER?**

- If you use public water, your local health department or water company will notify you if any health precautions are necessary. They may issue recommendations (see the box below) to protect you from possible exposure to Cryptosporidium.
- If you use a private well, you are advised to sample your well water once a year for coliform bacteria. While these bacteria may not be harmful themselves, they can indicate the presence of fecal matter and disease-causing organisms, such as Cryptosporidium. Your local health department can provide you with appropriate actions to take (see the box below) if coliform bacteria are found in your drinking water .

**If Cryptosporidium is found or suspected in your drinking water, you may be advised to take the following precautions:**

**Do not use tap water for drinking.**

**Do not prepare uncooked foods (such as cold drinks or ice) with tap water.**

**Boil tap water for 1 full minute, or filter the water (see page 11), before using it for drinking and preparing uncooked food.**

- Individuals with specific health conditions, such as those with weakened immune systems, should talk to their doctor about the need to take special health precautions.

**HOW ELSE CAN YOU PROTECT YOURSELF FROM EXPOSURE TO CRYPTOSPORIDIUM?**



Wash your hands with soap and hot water after any activities where you may have come in contact with human or animal feces. It is important to wash your hands after using the

bathroom, changing a diaper, or cleaning up animal waste.

Wash uncooked foods before you eat them.



Be careful not to drink untreated water when you are hiking or camping.



Avoid sexual activities that may involve contact with feces.

**I**ndividuals with weakened immune systems need to be particularly aware of the possible health effects that can result from exposure to *Cryptosporidium*. Also, they are advised to talk with their doctors about steps that they can take to protect themselves from cryptosporidiosis or if they have symptoms of the disease.



Avoid swallowing untreated water when you are swimming or involved in other water sports.



Avoid drinking unpasteurized milk or juice.

**ARE HOME WATER FILTERS AND BOTTLED WATER EFFECTIVE WAYS OF PREVENTING EXPOSURE TO CRYPTOSPORIDIUM?**

Certain **home water filters** are effective in removing Cryptosporidium from drinking water. These filters either use reverse osmosis, or have an absolute pore size of one micron or smaller. Keep in mind that all filters must be properly maintained in order to be effective. Contact your local health department or NSF International, an independent testing and certification group, for information on specific brands of filters suitable for the removal of Cryptosporidium (see page 14).



**Bottled water** is not necessarily free of

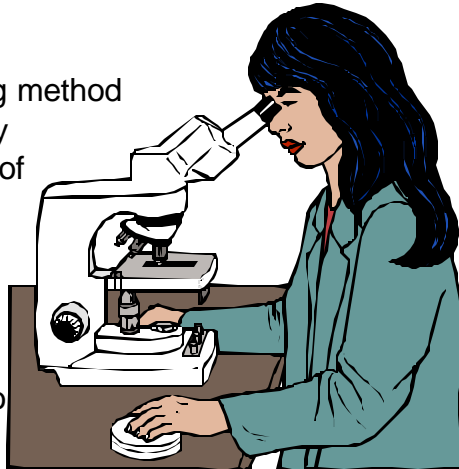
Cryptosporidium. In general, bottled water from a surface water source (such as a stream) is more likely to contain Cryptosporidium than bottled water from a ground water source (such as a well). Companies that sell bottled water in New Jersey must list the source of the water on the product label.

Some bottled water is treated before being sold. Cryptosporidium can be effectively removed from bottled water if it is treated by any of the following methods: (1) reverse osmosis; (2) filtration using an absolute one micron or smaller filter; and (3) distillation. Contact the Consumer and Environmental Health Services for more information about bottled water (see page 13).

### **WHAT RESEARCH IS CURRENTLY BEING CONDUCTED ON CRYPTOSPORIDIUM?**

Research on Cryptosporidium is being conducted in a number of areas such as:

- improving methods to remove or kill Cryptosporidium in drinking water supplies;
- developing a testing method that can quickly identify and count the number of living Cryptosporidium in water; and
- determining how much Cryptosporidium in water is necessary to cause an outbreak of Cryptosporidiosis.



**T**he federal U.S. Environmental Protection Agency is collecting information on the occurrence of disease causing organisms, including Cryptosporidium, in drinking water and on the effectiveness of different treatment technologies in removing these organisms from drinking water. This information will be used to determine if changes in current drinking water regulations are needed and to develop new regulations to protect drinking water.

**FOR MORE INFORMATION...**



◆ **Local Health Department**

(Check your local telephone directory)

Local water issues, private well testing guidance, and health effects of *Cryptosporidium* in drinking water

◆ **New Jersey Department of Health and Senior Services  
Consumer and Environmental Health Services**

PO Box 369

Trenton, NJ 08625-0369

(609) 588-7500

Health effects of *Cryptosporidium*  
in drinking water

(609) 588-3123

Bottled water regulations

(609) 588-3120

Health effects of chemically  
contaminated drinking water

**V**isit our  
website at:  
[www.state.nj.us/  
health](http://www.state.nj.us/health)

◆ **New Jersey Department of Environmental Protection  
Bureau of Safe Drinking Water**

(609) 292-5550

Federal and State drinking water regulations and public water  
supply monitoring results

**Office of Quality Assurance**

(609) 292-3950

NJ certified testing laboratories for microorganisms in  
drinking water

**FOR MORE INFORMATION...**



◆ **United States Environmental Protection Agency  
Safe Drinking Water Hotline**

(800) 426-4791

Federal drinking water regulations, health effects of  
Cryptosporidium in drinking water, and other water safety  
issues

◆ **Centers for Disease Control and Prevention  
National AIDS Hotline**

(800) 342-AIDS

HIV/AIDS and Cryptosporidium

*En Espanol/In Spanish Language:*

(800) 344-7432

◆ **Public Water Company or Municipal Water Utility**

(Check your local telephone directory)

Public drinking water regulations and monitoring results

◆ **County Office of Rutgers Cooperative Extension**

(Check your local telephone directory)

Local land use activities and private well testing guidance

◆ **NSF International**

(313) 769-8010

(800) NSF-6275

Home water treatment device and bottled water information

**OTHER AVAILABLE MATERIALS...**



- FACTS: Lead in Drinking Water*
- FACTS: Mercury in Drinking Water*
- FACTS: Microorganisms in Drinking Water*
- FACTS: Nitrate and Nitrite in Drinking Water*
- FACTS: Pesticides in Drinking Water*
- FACTS: Volatile Organic Compounds in Drinking Water*
- Parasites and New Jersey Drinking Water: Information on Giardia and Cryptosporidium*
- Contacts and Information: Drinking Water Issues*
- Private Well Testing*
- Don't Drink Lead (11" x 17" poster)*
- Keep Your Baby Safe From Lead (11" x 17" poster)*

Name \_\_\_\_\_

Address \_\_\_\_\_

Town \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Please send this order form to:

New Jersey Department of Health and Senior Services  
Consumer and Environmental Health Services  
PO Box 369  
Trenton, NJ 08625-0369



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