

Cryptosporidium

What is Cryptosporidium?

Cryptosporidium is a microscopic protozoan parasite (not a bacterium or virus) that causes a gastrointestinal illness called cryptosporidiosis. Cryptosporidium exists in the environment in a hardy form called an oocyst. The parasite can infect many animals, notably cattle and sheep and in particular their young. The faeces of infected animals, including humans, may contain very large numbers of oocysts.

What is Cryptosporidiosis?

Cryptosporidiosis is a diarrhoeal disease that can develop when cryptosporidium oocysts are ingested. The main symptoms of cryptosporidiosis are diarrhoea and abdominal cramps; vomiting is common, especially in children. In healthy individuals, cryptosporidiosis is a self-limiting illness that usually lasts for about a week but which may extend for up to three weeks. Occasionally patients may experience the recurrence of some of their symptoms for longer. Cryptosporidiosis can be a serious illness in people who have immune systems that are not working properly (including people who have cancer, are having chemotherapy, or have AIDS). It is important that these individuals seek advice from their doctor about the precautions they should take to protect their health. This includes drinking only boiled water, whatever its source, and minimising contact with animals.

Where is Cryptosporidium found?

The parasite is commonly found in the faeces of cattle, sheep, humans and many other mammals as well as birds, fish and reptiles. Because of this, oocysts can be found in a variety of environments including sewage, lakes, streams and rivers, untreated water and sometimes in swimming pools.

How is cryptosporidiosis spread?

People can develop cryptosporidiosis after ingesting cryptosporidium oocysts from a variety of sources. Person to person spread is a frequent route of infection and occurs when care is not taken with personal hygiene. Contact with infected animals or their faeces can put people at risk of infection. Consuming contaminated food, milk or water also puts people at risk of disease. Many outbreaks have been caused by swimming in contaminated pools both in the UK and abroad.

How can the spread of cryptosporidiosis be limited?

1. Careful handwashing is the most important prevention measure you can take. Wash hands thoroughly with soap and warm water and dry afterwards. Do not share towels.
2. Use gloves if handling soiled articles from ill people. Wash soiled clothing and bed linen on hot cycle.
3. If looking after someone with gastroenteritis, carefully disinfect toilet seats, flush handles, wash-hand basin taps and toilet door handles daily and after use. Use a bleach based household cleaner, diluted according to the manufacturer's instructions.
4. Maintain good personal hygiene and hygienic preparation and serving of food.
5. If you have gastroenteritis, don't return to school or work until you have been symptom free for 48 hrs. Don't visit patients in local hospitals and long term care facilities. While many people tend to feel better sooner, illness can still spread if they return to work or school within 48 hours since the last symptom.

Why is Cryptosporidium a problem for the water industry?

Cryptosporidium oocysts can be washed into rivers, streams and reservoirs from farms, livestock, wildlife and from the discharges of sewage treatment works, septic tanks, etc. Cryptosporidium oocysts can survive for a long time in water and are resistant to chlorine, the usual method of disinfecting drinking water. Outbreaks of cryptosporidiosis have been linked to water supplies both in the UK and around the world.

How is Cryptosporidium removed from drinking water?

An essential first step to minimise the risk from cryptosporidium is to protect raw water sources from contamination by managing the land or catchment surrounding the water. However, as Dŵr Cymru Welsh Water does not own all the land surrounding its reservoirs and river sources, developing good working relationships with stakeholders in the catchment will be critical in ensuring the risk to our catchments is managed

Oocysts can be removed from water by treatment processes at water treatment works. The primary method of removal is coagulation and filtration. Coagulation occurs when a chemical is added to water that causes impurities in the water to join together and form large clumps. Sand filters can then remove these clumps before the water is disinfected and distributed to customers. Some treatment works have membrane filtration units which will remove all oocysts from the supply. Other treatment works have ultraviolet disinfection (UV) units designed to kill cryptosporidium. A UV disinfection unit was installed at the Cwellyn WTW following the 2005 outbreak of cryptosporidiosis in the Bangor/Caernarfon area supplied from this works.

What has Dŵr Cymru Welsh Water done about the risk from cryptosporidium?

We have carried out risk assessments at all our water treatment works to determine whether there is a risk of cryptosporidium entering the water supply. At sites where a risk has been identified, continuous monitoring equipment has been installed. If oocysts are detected in water supplies, and where the local health protection unit considers it appropriate, the public may be advised to boil and cool their tap water as a precaution before drinking it. Boiling will kill cryptosporidium oocysts.

What if I have been told to boil my water?

If you have been asked to boil your water, it is recommended that you follow these guidelines:

- Boiling the Water - using an electric kettle, to boil water, is better and safer than using pots and pans. The water does not need to be held at boiling point for any length of time, it is sufficient to bring the water to the boil. Cover the water and allow it to cool before use. It can then be stored in a clean container in the fridge for up to 48hours. Do not store large quantities of boiled water in open containers, such as bins, as the water may deteriorate or become contaminated
- Brushing teeth - use cooled boiled water for brushing teeth
- Ice cubes - if you made ice cubes prior to the boil water notice, discard them. Make ice cubes with cooled boiled water
- Washing and bathing - it is quite safe to wash and take a bath: the route of infection is by swallowing the water
- Washing up - dishes should be washed using boiled water if possible, but it is probably sufficient to rinse washed dishes with cooled boiled water before they are dried. Dishwashers can be used provided they are set on a hot wash cycle.

Water from the hot tap is **NOT** suitable for drinking.

Where can I get further information?

Please call us first on our operational helpline on **0800 052 0130**.

One of our regulators, the Drinking Water Inspectorate, is responsible for ensuring the high quality of public water supplies. You can visit their website at: www.dwi.gov.uk