

Independent Guide

What is Cryptosporidium?



Independent workplace compliance

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Cryptosporidium (plural *Cryptosporidia*) is a genus of microscopic parasite which inhabit the intestines of animals and infected people. First discovered in the early 20th Century, it is responsible for causing an intestinal illness called cryptosporidiosis. Both the parasite and the disease are also being more commonly referred to now, especially in the US, as "Crypto".

How does contamination occur?

Cryptosporidia are shed in the stools of infected animals and people. Ingesting contaminated food (cooked or uncooked), water (potable or recreational) or touching your mouth with contaminated hands, objects etc. are means of becoming infected. Because *Cryptosporidium* can prove resistant to chlorine, it has also been known to be spread by town mains water supplies and swimming pool water.

Most of the larger outbreaks of cryptosporidiosis have been associated where drinking water supplies have become contaminated with the parasite. For this to occur it is usually connected with variety of factors, including:

- The presence of farm animals, particularly sheep and cattle, close to the water up-stream of a water treatment works' intake point;
- Highly turbid water (as found after heavy rain, when silts and other organic matter are washed into rivers, streams and other water courses); and
- Some form of failure in the normal water treatment process.

What are the health effects?

Of the approximately 26 species of *Cryptosporidia*, 8 are commonly associated with infections in people and over 90% of these are from two species *Cryptosporidium hominis* and *Cryptosporidium parvum*.

While some people with cryptosporidiosis can be a-symptomatic (have no symptoms), the more common effects are watery diarrhoea, abdominal cramps, nausea and headaches. These symptoms will usually develop in the two weeks following infection and can last for up to a month, although they typically resolve within a couple of weeks. Some people can also experience relapses where having resolved the symptoms then re-occur.

Anyone can develop the disease, but it is more common in young children (under 5). People with compromised immune systems are also at greater risk, as well as from potentially suffering more acute illness. Figure from Public Health England identify between 3,000 and 6,000 cases of cryptosporidiosis are reported in England and Wales annually.

In May 2024 approx. 100 were infected in an outbreak of *Cryptosporidium* centred on Brixham, South Devon.

What is the legislation?

The Water Supply (Water Quality) Regulations 2000 and the Water Supply (Water Quality) (Scotland) Regulations 2001 set strict guidelines for the physical properties of drinking water. They also state that drinking water should not contain certain chemicals or micro-organisms and parasites. It is the employer who is responsible for the quality of the water once it has entered the building.

Because of their size and resistance to chlorine, *Cryptosporidia* can prove difficult to remove with conventional types of water treatment. The Multi-barrier approach, combining water source protection, sedimentation, filtration, disinfection and safe storage, of more modern treatment works is more effective particularly in inactivating *Cryptosporidium* and other protozoan cysts.

Water companies will typically use a formal risk-based approach to assessing, managing and treating *Cryptosporidium*. This would include routine monitoring of treated water and undertaking investigations, and as necessary corrective actions, where results indicate action is needed. Water companies that do not adequately treat drinking water for *Cryptosporidium* face unlimited fines now that new regulations have come into force. Where such a risk is found, continuous sampling and daily analysis of water are required, monitored by unannounced visits from the Drinking Water Inspectorate.



Assurity Consulting Limited

26 Redkirk Way Horsham West Sussex RH13 5QH
t +44 (0)1403 269375 e info@assurityconsulting.co.uk
w assurityconsulting.co.uk

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What should I do if there is an outbreak of Cryptosporidiosis in my area?

Outbreaks of cryptosporidiosis do occur in the UK, the majority being associated with drinking or swimming in contaminated water and contact with infected lambs and calves during visits to open farms.

The Health and Safety Executive (HSE) identify that those at an increased risk of occupationally acquired cryptosporidiosis include:

- Farm workers;
- Abattoir workers, meat processing plant workers and butchers;
- Veterinary surgeons;
- Workers in outdoor leisure industries in contact with water, e.g. water sports instructors;
- Sewage and wastewater workers;
- Construction/demolition/building renovation workers – where there is stagnant water; and
- Healthcare and care workers;

If an outbreak of Cryptosporidiosis occurs in your area, your local water authority will carry out the necessary testing of the mains water supply. They will also carry out treatment to remove the organism from the water supply.

Cryptosporidium spp. is a causative agent notifiable to Public Health England (PHE) under the Health Protection (Notification) Regulations 2010. If someone in your organisation contracts Cryptosporidiosis you and the employee's GP should inform the local Medical Officer for Environmental Health (MOEH) immediately.

This guide is of a general nature; specific advice can be obtained from Assurity Consulting. Assurity Consulting is the UK's leading independent compliance consultancy specialising in workplace health, safety and environmental solutions. We have over 35 years' experience of helping customers of all sizes, from across all sectors, manage their compliance responsibilities, making sure that their organisation is compliant, their employees are safe, their processes are cost effective and their management team is in control.



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