



# 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 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 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 48 hours. 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.

### Need more information or advice?



[dwrcymru.com](http://dwrcymru.com)



0800 052 0130

You can also visit the Drinking Water Inspectorate website at [dwi.gov.uk](http://dwi.gov.uk)



# Cryptosporidiwm

## Beth yw cryptosporidiwm?

Parasit protosoad bach iawn (nid bacteriw neu firws) sy'n achosi'r salwch gastroberfeddol cryptosporidiosis. Mae cryptosporidiwm yn bresennol yn yr amgylchedd ar ffurf oocystau ac mae'n gallu heintio anifeiliaid megis gwartheg a defaid, yn arbennig anifeiliaid ifanc. Gall ymgarthion anifeiliaid wedi'u heintio, yn cynnwys pobl, gynnwys llawer iawn o oocystau.

## Beth yw cryptosporidiosis?

Salwch sy'n gallu datblygu ar ôl llyncu oocyst cryptosporidiwm. Y prif symptomau yw dolur rhydd a chramp yn yr abdomen; gyda chwydu'n gyffredin, yn arbennig gyda phlant. Yn achos oedolion iach, bydd y salwch yn para tua wythnos cyn dod i ben yn naturiol, ond mae'n gallu para hyd at dair wythnos. Ar adegau gall rhai o'r symptomau ailymddangos.

Mae cryptosporidiosis yn gallu profi'n afiechyd difrifol os na fydd system imiwn pobl yn gweithio'n iawn (ee pobl gyda chanser, yn derbyn cemotherapi, neu'n dioddef o AIDS). Bryd hynny bydd yn bwysig cael cyngor gan feddyg am gamau i ddiogelu iechyd. Mesurau megis yfed dŵr wedi'i ferwi ymlaen llaw ar bob amser, dim ots o ba ffynhonnell, ac osgoi dod i gysylltiad ag anifeiliaid.

## Ble bydd cryptosporidiwm yn llechu?

Yn gyffredin bydd y parasit yn bresennol mewn ymgarthion gwartheg, defaid, pobl ac anifeiliaid eraill, ynghyd ag adar, pysgod a reptiliaid. O ganlyniad fe welir yr oocystau mewn amryw amgylcheddau, yn cynnwys carthion, llynnoedd, nentydd ac afonydd, dŵr crai ac weithiau mewn pyllau nofio.

## Sut bydd cryptosporidiosis yn lledu?

Mae pobl yn gallu datblygu cryptosporidiosis ar ôl llyncu oocystau cryptosporidiwm o amryw ffynonellau. Yn aml gall y parasit ledu o berson i berson, felly rhaid bod yn ofalus wrth ddilyn arferion hylendid diogel. Mae risg o heintiad wrth ddod i gysylltiad ag anifeiliaid neu ymgarthion heintus. Yn ogystal, gall bwyta bwyd, llaeth neu ddŵr halogedig arwain at salwch. Gwelwyd nifer o achosion ar ôl i bobl nofio mewn pyllau halogedig ym Mhrydain a thramor.

## Atal cryptosporidiosis rhag lledu?

1. Golchi dwylo'n ofalus yw'r mesur pwysicaf, eu golchi'n drylwyr gyda sebon a dŵr cynnes a sychu'n ofalus wedyn. Peidiwch â rhannu tywelion.
2. Defnyddio menig wrth drafod eitemau pobl sy'n sâl. Golchi'r eitemau hynny a dillad gwely mewn peiriant ar raglen boeth.
3. Os yn edrych ar ôl rhywun yn dioddef o gastroenteritis, diheintio seddi a dolenni toiledau, tapiau a dolenni drysau bob dydd ac ar ôl eu defnyddio. Defnyddio deunydd glanhau'n cynnwys cannydd, gan ddilyn y cyfarwyddiadau.
4. Cynnal safonau hylendid personol da ac wrth baratoi bwyd.
5. Os yn dioddef o gastroenteritis, peidio dychwelyd i waith neu ysgol tan i chi fod yn rhydd o symptomau am 48 awr. Osgoi ymweld â chleifion mewn ysbytai a chanolfannau gofal hir dymor. Er bydd llawer o bobl yn teimlo'n well yn gynharach, mae salwch yn dal i allu lledu os bydd pobl yn dychwelyd i waith neu ysgol o fewn 48 awr o'r symptom olaf.

## Pam yw cryptosporidiwm yn broblem i'r diwydiant dŵr?

Gellir golchi oocystau cryptosporidiwm i afonydd, nentydd a chronfeydd o ffermydd, anifeiliaid a bywyd gwylt, ac wrth arllwys deunyddiau o weithfeydd trin carthion, tanciau septig etc. Mae oocystau cryptosporidiwm yn gallu para am gyfnod hir iawn mewn dŵr ac yn goroesi triniaethau clorin, y dull arferol o ddiheintio dŵr. Cysylltwyd achosion cryptosporidiosis â chyflenwadau dŵr yn y Deyrnas Unedig ac ar draws y byd.



## Sut i waredu cryptosporidiwm o ddŵr yfed?

Y cam cyntaf i isafu'r risg o gryptosporidiwm yw diogelu ffynonellau dŵr crai rhag halogi wrth reali'r tir a'r ardal o gwmpas y dŵr. Fodd bynnag, nid yw Dŵr Cymru yn berchen yr holl dir o amgylch cronfeydd ac afonydd, felly bydd rhaid datblygu cysylltiadau da gyda rhanddeiliaid ardaloedd er mwyn rheoli risgiau i ddalgylchoedd dŵr.

Bydd prosesau mewn gweithfeydd trin dŵr yn dileu oocystau. Y prif ddull yw ceulo a ffiltro. Ychwanegir cemegyn at y dŵr sy'n peri amhureddau yn y dŵr i grynhoi a ffurfio clystyrau mawr. Yna bydd ffiltro tywod yn tynnu'r clystyrau o'r dŵr cyn ei ddiheintio a dosbarthu i gwsmeriaid. Mae rhai gweithfeydd trin yn cynnwys unedau ffiltro pilen sy'n dileu'r oocystau ac eraill yn cynnwys adnoddau diheintio uwchfioled sy'n lladd cryptosporidiwm. Gosodwyd uned uwchfioled yng ngwaith trin Cwellyn yn dilyn achosion cryptosporidiosis 2005 yn ardaloedd Bangor/ Caernarfon sy'n derbyn dŵr o'r gwaith hwnnw.

## Mesurau Dŵr Cymru i daclo cryptosporidiwm?

Rydym wedi cynnal asesiadau risg ym mhob gwaith trin dŵr er mwyn pennu os oes risg o gryptosporidiwm yn cyrraedd y cyflenwad dŵr. Ar y safleoedd ble datgelwyd rhywfaint o risg, gosodwyd offer i fonitro'r sefyllfa'n barhaus. Os datgelir oocystau yn y dŵr, a phan fydd yr uned diogelu iechyd y cyhoedd yn ystyried hynny'n addas, gellir cynghori'r cyhoedd i ferwi ac oeri eu dŵr tap cyn ei yfed. Bydd berwi'n lladd yr oocystau.

## Os yn derbyn hysbysiad berwi dŵr?

Os yn derbyn hysbysiad i ferwi'r dŵr, awgrymw'n eich bod yn dilyn y canllawiau isod:

### Berwi dŵr

Tegell trydan yn fwy diogel na defnyddio potiau ac ati. Nid oes angen berwi'r dŵr am gyfnod hir, dim ond ei ddwyn i'r berw. Rhowch glawr ar y dŵr a'i adael i oeri cyn ei ddefnyddio. Storiwch mewn blwch glân yn yr oergell am hyd at 48 awr. Peidiwch â storio llawer o ddŵr wedi'i ferwi mewn blychau agored, oherwydd gall ansawdd y dŵr ddirywio.

### Brwsio dannedd

Defnyddio dŵr berw wedi'i oeri

### Ciwbiau rhew

Gwaredwch unrhyw rew a baratowyd cyn derbyn yr hysbysiad, gan wneud rhai newydd gyda dŵr wedi'i ferwi

### Ymolchi

Bydd ymolchi a chymryd bath yn ddiogel: llyncu'r dŵr yw'r llwybr heintio

### Golchi llestri

Defnyddio dŵr wedi'i ferwi os yn bosibl, ond mae'n debyg bydd rinsio'r llestri gyda dŵr berw wedi'i oeri yn ddigon, cyn eu sychu. Yn achos peiriant golchi llestri, defnyddiwch raglen boeth.

**NID yw dŵr o'r tap poeth yn addas i'w yfed.**

## Angen cyngor neu wybodaeth?



[dwrcymru.com](http://dwrcymru.com)



0800 052 0130

Neu ewch i wefan yr Arolygiaeth Dŵr Yfed sef [dwi.gov.uk](http://dwi.gov.uk)