Bacteria in water

United Utilities
Water for the North West

Just like the air we breathe and the food we eat, drinking water is not sterile - nor does it need to be. It should, however, be free from any pathogens, which are micro-organisms capable of causing disease.

Drinking water is treated to remove any germs that may be present and is disinfected before it leaves the treatment works. A small residual amount of chlorine is left in the water to maintain quality as it travels through the network of mains and pipes that deliver water to our customers.

Testing

In addition to extensive real time monitoring at the treatment works, every month we visit thousands of homes and businesses to ensure that drinking water meets stringent water quality standards. It is impractical to analyse drinking water directly for the wide range of pathogens that could be present. Instead we look for particular types of bacteria which suggest that, despite our precautions, the water may not be of the usual high standard. These are known as 'indicator bacteria'. Their presence in treated drinking water is taken as a possible sign that pathogens could also be present. There are four sorts of indicator bacteria that we look for:

- **Coliform bacteria** are widely distributed in the environment (e.g. soil, vegetation, and water) and are generally harmless. If only coliform bacteria are detected in drinking water, the source is probably environmental. We will always take action to identify any potential root cause and to ensure water quality returns to its usual high standard.
- **E.coli (Escherichia coli)** is a sub-group of the coliform group. Sources for *E.coli* include surface water runoff, agricultural activity, or from faecal contamination. Whilst most types of *E. coli* are harmless, their presence in water can indicate that the supply may have been affected by recent contamination. The presence of *E. coli* in a drinking water sample means that there is a greater risk that harmful germs are present. Therefore, prompt action is always taken to identify any potential root cause and to ensure water quality returns to its usual high standard.
- **Enterococci** are harmless bacteria commonly associated with faecal contamination. Other sources include surface water runoff or agricultural activity. Their presence in water can indicate that the supply may have been affected by recent contamination. The presence of Enterococci in a drinking water sample means that there is a greater risk that harmful germs are present. Therefore, prompt action is always taken to identify any potential root cause and to ensure water quality returns to its usual high standard.
- **Clostridium perfringens** occur naturally in soil and within aquatic environments. Many clostridia can survive in soil for years as spores as they are resistant to environmental conditions such as low temperature. Low numbers of clostridia may occasionally occur in water supplies, but they do not indicate an immediate risk to health. However, as it is unusual for us to detect them, we do carry out a full investigation and ensure that the water quality returns to its usual high standard.

We also carry out tests to measure levels of bacteria that are normally present in drinking water. These bacteria are harmless. However, unusually high levels can give rise to 'off tastes' and would be investigated further.

What happens if we find indicator bacteria?

Steps are taken immediately to identify how the bacteria may have entered the system which include:

- further water quality sampling including neighbouring properties, supplying service reservoirs (where drinking water is stored) and treatment works.
- checks to confirm that the water treatment works are operating as they should be.

These steps should help us to determine whether there is a problem with the water system generally or if it is limited to a household's plumbing. Samples are analysed by our laboratory and if we identify an issue, we will be in touch within a few days.

In most cases, repeat samples are clear and our investigations provide no evidence that there is a problem with the water supply system.

In the unlikely event that there is widespread contamination we will discuss this with local health departments and jointly agree what measures are necessary to protect public health.

Any customers that are affected would be advised in writing and via the news media.

What happens if the problem only affects my property?

Occasionally repeat samples confirm the presence of bacteria. Possible sources include plumbed-in water filters or softeners, incorrectly installed washing machines or dishwashers, incorrect fittings, and taps supplied from storage tanks.

We are responsible for the length of pipe from the water main in the street up to the boundary of your property. In most cases this includes the external stop tap. The remainder of this supply pipe and all internal plumbing is your responsibility if you are the property owner; otherwise it is your landlord's. You may find the booklet 'Looking after water in your home' useful, visit **unitedutilities.com/leaflets** to download.

Your water quality

If you're interested in finding out more about the quality of your drinking water, please visit **unitedutilities.com/waterquality** and enter your postcode. We'll tell you where your water comes from, together with other information such as its hardness.

For further information

unitedutilities.com/waterquality

0345 672 3723

The Drinking Water Inspectorate is responsible for regulating the quality of public water supplies.

Visit their website at: **www.dwi.gov.uk**

About us

United Utilities is the North West s water company. We keep the taps flowing and toilets flushing for seven million customers every day. From Crewe to Carlisle, we work hard behind the scenes to help your life flow smoothly.

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