

What is in your water ?

The definite guide to testing
your water

From our experts at SimplexHealth

Boost your Energy
& Vitality - Simple!

Before we begin...

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The gift of clean and safe water

An important thing you can do for your health and that of your family

This guide will give you advise about the safety of your drinking water – one of the potentially most important things in your household. Concern about the safety and quality of our drinking water has grown steadily in the past few years. Safe drinking water is **not only a problem in Third World countries** – it is also an issue in industrially developed countries. Lakes, rivers and groundwater are becoming more and more polluted through over-use and increasing environmental and industrial pollution. This puts a lot of pressure on our water cycle.

Don't just rely on your water supplier to deliver clean and safe water. Contaminants can range from naturally-occurring minerals to man-made chemicals & by-products or traces of prescription drugs. Most contaminants cannot be detected using smell, taste or look. Even low-level exposure can, over time, cause severe illnesses.

Clean water is important for your health and that of your family.

Ensure that your home drinking water is safe – for your family's long term health and safety.

This guide will give you detailed information about what to look out for, when and how often to test your water and what to do if you suspect contaminants.

Not everyone is an expert at testing water and understanding the results. That's why we have developed this short and simple booklet to give you a good starting point.

Now, let's get into the guide!

Here are some facts to show you how important clean drinking water is:

1 In 2006, water borne diseases were estimated to cause 1.8million deaths each year worldwide (1).

In the WHO European Region, 330'000 cases of water-related disease are reported on average each year (2).

Extreme weather events are growing in frequency and intensity, and affect both the quantity and quality of water resources, raising concern among policy-makers and citizens alike. The number of extreme events in Europe increased by 65% between 1998 and 2007 (2).

2 **Chlorine**, used for disinfection can react with organic matter, to form cancer-causing trihalomethanes.

3 Pipes can leach **lead**, which causes a wide variety of developmental and neurological problems, especially in babies and infants. In the US about 1million children under the age of six have blood lead levels exceeding the level of concern.

4 **Pesticides** have been discovered in every large watershed in the US and in a large percentage of groundwater wells.

5 When animal or human wastes or fertilisers make contact with water, they become **nitrates and nitrites**. Blue Baby syndrome, a lethal form of nitrate and nitrite poisoning, can strike infants exposed to contaminated water.

Though most people depend on their local water utility to provide a clean and safe water supply, contaminants can also be caused by other sources like lead pipes or bacteria build-up. Even if you don't drink your tap water, chances are you cook, bathe and brush your teeth with it ... potentially allowing toxins into your system.



What are the commonly found toxins in water?

- Pb** **Lead**
can cause developmental harm, neurological and kidney damage, especially young children are at risk
- N** **Nitrates and Nitrites**
from fertilisers and animal wastes, can cause developmental problems
- E.coli** **Bacteria**
strains of e.coli can cause serious illness or death
- Cl** **Chlorine**
used for disinfection, unpleasant taste or smell
- pH** **pH**
can cause plumbing damage and lead leaching
- Hd** **Hardness**
causes lime scale and higher detergent use
- Pe** **Pesticides**
from agricultural uses, have been linked to increased cancer rates
- Fe** **Iron**
can cause reddish brown stains, even in low concentration
- Cu** **Copper**
high levels may cause gastrointestinal distress



The benefits of testing your water

There are many reasons why you should test the water supply in your home or business:

- If our **water supply is private**, ie. comes from a well in your garden then routine well water tests should be carried out regularly
- If you have recurrent incidents of **gastrointestinal illness** within your family
- **Pregnant women, babies and young children** are especially at risk from exposure to contaminants
- If you move to a **new property**
- If you suspect contamination ie. through **smell or discolouring**
- If water leaves **scaly residue** on plumbing and fixtures
- If **household appliances or water supply** equipment don't appear to be working properly or **wear rapidly**
- If **Health & Safety regulations** require that specific water tests are carried out regularly

Generally, it is recommended to test your water at least once a year, if not every six months.

In addition, certain factors can change over time and therefore tests should be carried out regularly:

- Hardness
- Chlorine
- Pesticides as well as nitrates & nitrites as levels may vary due to seasonal changes ie. in the intensity of agriculture
- Lead: test for lead at different times in a day as lead levels can vary depending on water usage (they are highest when water has been sitting in the pipe for a while)

How to test your water?

It is especially the long term exposure to bacteria, lead, chlorine, pesticides, nitrates and nitrites that can create health problems.

There are various ways you can test your drinking water:

Method 1 Use a home test kit

For tap water: use a **Watersafe® Drinking Water test kit**

For private water supplies like springs, ground water or small streams:
use a **Watersafe® Well Water test kit**

Benefits:

- They are a great way of obtaining an initial indication about dangerous levels of the potential key contaminants in your drink water
- Easy to use – even for first-timers
- Immediate results
- No waiting for lab analysis and no extra fees
- Compare your results with EPA* – recommended levels

(*EPA = the United States Environmental Protection Agency)

The **Watersafe® test kit** contains everything you need to find out simply and accurately if your water contains unsafe or undesirable levels of some of the most common contaminants.

Please note, that these tests can help to do an initial analysis of your water but they are not designed to certify water as safe for drinking!

Method 2 Use an external laboratory

For tap water: contact your local water supplier or water board for their recommendation and test methods. Each region may have a different supplier, a good place to start is the Drinking Water Inspectorate (DWI) on www.dwi.gov.uk.

For private water supplies you may have to find an independent laboratory.

Testing carried out by professional laboratories usually requires you to take a sample and send it in for detailed analysis. This process may be more expensive and take more time.

What to do if the Drinking Water test kits identify high levels of contaminants?

Avoid any form of consumption and contact your water supplier for more information and suitable actions. This is especially true for potential toxins like nitrates & nitrites, bacteria and pesticides.

When a test reveals levels of contaminations **some simple actions** can be taken immediately:

- **Lead:** Flush your pipes before drinking – the more time water has been sitting in the pipes the more lead it may contain. Only use cold water for drinking or cooking, especially for making baby formula. Hot water is likely to contain higher levels of lead. Levels of lead may be higher in areas of softer water as pipes may corrode quicker than in areas of hard water. Also read our guide to lead in drinking water. In the long term, look to replace any lead pipes.
- **Hardness and high pH:** Invest in a water softener to reduce scaly residues and the amount of detergent required for washing clothes. But look out as essential minerals such as calcium and magnesium may be lost when the water is softened. Therefore, keep a separate unsoftened mains fed tap. In addition, most water softeners replace minerals with sodium which may have a negative effect on anyone who is on a sodium-restricted diet as well as babies who have a limited tolerance to sodium.
- High quality water filters and reverse osmosis machines can also be used as a **water filtration system** and can contribute to removing some of the most common contaminants. Filters can either be separate and portable or plumbed into the mains supply.



Top Tips on how to keep the water in your home safe

- **Tap hygiene** – keep your taps always clean and make sure that food does not come in contact with your taps. Taps – if not cleaned properly – can be a breeding ground for bacteria and hence contaminate your water which otherwise would have been clean. Clean the outside as well as the inside spout.
- **Unpleasant smell and taste of chlorine** – some people are more sensitive towards this. Put your tap water in the fridge as chilled water loses chlorine smell or taste.
- **Fit non-return valves** to hose pipes, dishwashers and washing machines so that water in flexible hoses cannot return into the mains supply.
- **Kettles**, particularly when new, **can cause unusual tasting hot drinks**. To check boil water in a saucepan and compare the smell.
- If noticing unusual taste or smell or discolouration, you may also want to **check with your neighbours** to see if the problem is specific to your home.
- **Check that your water tank** is in a good condition and covered with a close-fitting lid.
- **An approved plumber** can give more detailed advice on how to look after plumbing and water fittings in your home.



Find a range of simple and easy to use test products at SimplexHealth

£19.99



City Water Test Kit 8-in-One:

This simple, affordable kit tests for bacteria, lead, pesticides, nitrates, nitrites, chlorine, pH and hardness – 8 of the most common and potentially hazardous contaminants found in drinking water.

£24.99



Well Water Test Kit 10-in One:

This kit was specifically designed to help you test quickly and easily for the 10 most common contaminants found in private well water, including: iron, copper, lead, bacteria, pesticides, nitrates, nitrites, chlorine, pH and hardness.

£9.99



Drinking Water Test Kit for Lead:

This common contaminant has been linked to learning disabilities, kidney damage, and muscle disorders. Get instant results within 10 minutes.

£9.99



Drinking Water Test Kit for Bacteria:

Bacteria in your water can cause anything from stomach upsets to hospital visits. Test your water for harmful coliform bacteria.

Also available are Water Test Kits for

- Hardness
- pH
- Bromine
- Total and Free Chlorine
- Chloride
- Pesticides
- Alkalinity & pH

Visit www.simplexhealth.co.uk for further information

Free shipping and same day despatch for all orders

References & Further Reading

Water UK – Looking After Water in Your Home

http://www.water.org.uk/Looking_after_water_in_your_home

The European Drinking Water Directive

http://ec.europa.eu/environment/water/water-drink/index_en.html

The Water Information System for Europe (WISE) <http://water.europa.eu/>

Drinking Water Inspectorate (England & Wales) which is set up to regulate public water supply companies in England and Wales

<http://dwi.defra.gov.uk/> or www.dwi.gov.uk

Other advice on plumbing:

Water Industry Approved Plumber Scheme (WIAPS) www.wras.co.uk/WIAPS

Water Regulations Advisory Scheme (WRAS) www.wras.co.uk

Institute of Plumbing and Heating Engineering www.iphe.org.uk

Advice on water filters and softeners:

British Water www.britishwater.co.uk

UK Water Treatment Association www.ukwta.org

References:

- (1) U.S. Centers for Disease Control and Prevention. Atlanta, GA. **“Safe Water System: A Low-Cost Technology for Safe Drinking Water.”** Fact Sheet, World Water Forum 4 Update. March 2006 http://www.cdc.gov/safewater/publications_pages/fact_sheets/WW4.pdf
- (2) World Health Organisation, Water and sanitation, facts and figures <http://www.euro.who.int/en/what-we-do/health-topics/environmental-health/water-and-sanitation/facts-and-figures>



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