

# What Type of Water Filter Should I Buy?

Once your domestic water supply is fluoridated, it's time to get a water filter to remove the fluoride. If you're in any doubt about that, or have any questions, get online and find the information promptly! Use the websites below as resources.

The best way to deal with fluoride is not to have it in the water supply in the first place. But for most (85%) of populated Australia, it will likely be some time until enough people (and their governments) wake up to the reality of slow and insidious chronic fluoride poisoning. In the interim, let's take action to reduce our exposure to fluoride, 'the ageing factor'.

It's useful to find the facts before purchase – especially as the cheapest and most readily available filters only use “activated carbon” that do NOT remove fluoride! Let's start with the contaminants and additives that filters will attempt to remove:

## Additives and Contaminants:

### Microbiological organisms:

- **Bacteria.** Pathogenic (harmful) organisms grow in water contaminated with human or animal faeces. Bacteria is usually killed by disinfection (e.g. chlorine or ozone) but may grow in water mains, so water is treated to the home.
- **Protozoa.** Includes cryptosporidium and giardia. They often resist disinfection.
- **Viruses.** Disinfecting water is usually sufficient to kill viruses.

### Added Chemicals:

- **Fluoride.** The fluoride is there purportedly to 'treat' people. Sourced from phosphate fertiliser factories that are paid for their industrial waste. Also used as rat and cockroach poison. The result is a very long list of health impacts, as well as being a violation of citizens' free choice, medical ethics and human rights. The evidence shows it doesn't prevent decay. Boiling doesn't remove fluoride, instead boiling concentrates it. Fluoride is colourless, odourless and tasteless. Fluoride is toxic and cumulative in the body. There may be no safe level. Minimise your fluoride intake.
- **Chlorine & chlorination byproducts.** Chlorine is added to water to kill pathogenic bacteria. Chlorine treats the water, though there is no reason to drink it. Chlorine is notorious for its smell. Boiling will remove chlorine, as will leaving water (uncovered) to stand for a while. Chlorine can react with organic substances in water creating potentially harmful “byproducts” such as trihalomethanes (THM). The Sydney Water Board replaced chlorination with ozone in 1995, due to health concerns, but other water authorities have been much slower to act.
- **Aluminium.** Added to remove suspended particles (in a “flocculation” process). Alternatives to aluminium are advisable, especially as evidence grows of aluminium's connection to mental health problems such as dementia (Alzheimer's Disease). Aluminium, not required by the human body in any quantity, helps fluoride cross the blood-brain barrier. The aluminium industry models after the smoking lobby in its denial and defence of its products.
- **Pesticides & Herbicides.** Some of which also contain fluoride. The World Health Organisation (WHO) state some of the major uses of fluoride is as a “rodenticide, pesticide, herbicide...” Be very careful with all chemical sprays!
- **Nitrate/Nitrite.** Resulting from sewage and fertiliser run-off. Nitrites may affect babies and young children.

## When buying a water filter, many different factors ought to be considered:

- **The natural mineral content of local water.** Some areas have much higher levels of natural minerals. This means filter cartridges will fill up more quickly with these minerals, as well as the intended capture of the fluoride ions.
- **Which contaminants you want to remove.** Different filters types have different abilities in removing substances.
- **Cost.** "You get what you pay for" is a useful maxim, though some filters may be beyond what you need. As well as the initial cost (plus installation if applicable), there are running costs. Change the cartridge when recommended.

## General Comments on Filter Types:

Distillation and Reverse Osmosis (RO) are very high quality, pricier, but tend to be slower and may also have a lower pH (slightly acidic). "Ion-exchange resin" with carbon filters are cheaper but can work well together as a 'combined' filter.

- **Distillation.** Often regarded as the best, they are also usually the most expensive to purchase and to operate. They function like a kettle - boiling water and condensing steam for a number of hours (note the electricity costs). Distillers are very good at leaving fluoride behind, though volatile organic compounds such as THM may also come through the system. Carbon filters can remove these. Bacteria could recolonise the cooling coils when unit's inactive. Distillers remove water's natural 'energy' (making 'lifeless water'). Needs to be re-energised (eg search 'Grander' filters)
- **Reverse Osmosis (RO).** For many conditions, the next best thing to distillers. Prime Ministers, Premiers, politicians and people “in the know” about fluoride will likely be using these filters. They typically take out a very high percentage of fluoride, but RO units waste more water than other units. They work by passing water under pressure through a thin membrane. Clean water goes out one pipe, while most contaminants are blocked and washed out the waste water pipe. The ratio of clean water to waste water varies with each RO model. Sediment and chlorine can affect RO and it's best to remove these first with carbon filtration.
- **Ion-Exchange Resin.** Units and running costs are cheaper than distillers and RO. They can be very good, inexpensive filters, though they can vary considerably in how much fluoride they take out. Ask for test reports (preferably

independent testing) which detail what gets filtered. The lifetime of the filter cartridge also needs to be considered. For how long will the filter remove a certain amount of fluoride? It will depend on the resins used and your water quality. Rusty iron can clog a filter by coating the resin. These filters remove metals and nitrates but don't remove chlorine and pesticides. This lends them well to be used in combined filters. They will last much longer in areas of low natural mineral content, but the cartridges will need to be replaced regularly, maybe six to 12 months.

- **Activated Carbon.** These filters won't remove fluoride or metals such as lead and copper (etched from inside water pipes by fluoride!). Carbon filters remove some of the main additives. Gone are chlorine, trihalomethanes (THM), pesticides, bad odour and taste. The better filters (eg rated absolute one micron, or better) can also reduce giardia and cryptosporidium. These filters are the cheapest, though the cartridges need to be replaced regularly.
- **Combination.** Combining the advantages of different filter types can be particularly effective. For example, when combining activated carbon with ion-exchange resins, the carbon filters remove the chlorine, THM and pesticides, while the ion-exchange resins remove the metals, nitrates and fluoride. Ceramic filters also can be used to filter particles and chlorine. There are now quite a few filters using ion-exchange resins and combined with other technologies in multi-stage filters. **Another option** which works well is RO combined with a carbon filter. The RO membrane cartridges struggle with removing the chlorine, so using a first stage "sacrificial" carbon filter is beneficial, also for removing particles. The carbon filter cartridges would be replaced more frequently than the RO cartridges.

**If your domestic supply is not fluoridated**, you are truly fortunate! Find out more, and tell your neighbours, as the health/pollution "authorities" may be coming to your location shortly. If you are on tank water (or from rivers or creeks), you may only require a carbon filter, unless you're downstream/downwind from potential pollution or contamination sources. Artesian water may contain high levels of so called "natural" fluoride. At least it isn't from industrial waste, but it may also be damaging (depends on concentration). Some regions of India, China and Turkey have problems with very high levels of naturally occurring fluoride. Get well water tested and filter for drinking/cooking and possibly also for showering.

### General suggestions for purchasing water filters:

- Do your homework on the different types of filters.
- You might also get your water tested, so you know what's in it and what there is to remove.
- **Combination Filters (carbon filter with ion-exchange-resins) are good with low mineral-content water:** Some places have naturally low levels of dissolved minerals, known as "soft water" or low TDS (Total Dissolved Solids). For example Melbourne, Hobart and to a lesser extent Sydney have low TDS, and so a combination of ion-exchange resins with a carbon filter is effective and is the cheapest option overall. To find out how mineralised your local water is, get a TDS meter (for about \$80), or get your water tested/analysed professionally.
- **Reverse Osmosis (preferably with first stage carbon filter):** Elsewhere, with a high natural mineral content, such filters would require new filter cartridges more frequently. Reverse Osmosis may be a better option in these areas.

### Additional Notes:

- Obtain (preferably independent) filter test results to see how effective filters are with contaminants (e.g. % fluoride).
- When shopping for a filter, consider the local angle. Your local water filter seller will be able to service it for you.
- Replace cartridges at the recommended times (or sooner with high usage or if you feel the cartridge is 'full'). Some people are sensitive enough to know when the cartridge needs to be changed. Keep replacement filter(s) ready.
- Conductivity meters (e.g. TDS "total dissolved solids" meters) may be useful as they give an indication of how many ions (of all types, other than water) are coming through the filter. Water itself doesn't conduct electricity, it's the dissolved ions, salts, etc that allow conductivity. Test the tap water itself before the unit is used, and when you start using the filter. This will give an indication of the mineral level coming through the filter, unless the filtration system ADDS minerals (e.g. Some systems have mineral stones that add calcium back into the water).
- Since fluoridation commenced in Geelong in mid 2009, we've had a report of a Reverse Osmosis filter clogged after just one month. These filters are more expensive and they ought to function for up to 12-24 months. Acidic fluoride has been eating the inside of the old water pipe network and clogging the filters with lead. This has bad implications for children's IQs in Geelong and also for any politicians or political parties supporting fluoridation.
- The variety of "enhancements" to water is increasing, such as new multi-stage filters with mineral stones and far-infrared. When minerals (e.g. calcium, magnesium) are added to water they make it alkaline (the opposite of acidic), possibly better for modern lifestyles. There are opinions on both sides of whether this "mineralised water" is better, or maybe just pure, cleansing water is best (and be sure to get your minerals through food and possibly supplements. Another example of new capabilities being integrated into water purifiers are those that consider water energetically. The "Grander" filters are a well-known example. If you're unaware of Dr Emoto's work, search for "hidden messages in water" (online and in books). It's fascinating and a new direction in promoting health and healing with water.
- We look to augment this information in future with more detail on particular filters, as well as links to filter sellers.
- Your feedback and comments are welcome.

**Australian Anti-Fluoridation Association GPO Box 935 Melbourne VIC 3001**

An independent, not-for-profit association committed to raising awareness & replacing 'compulsory medication' with Freedom of Choice

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