

feature

# Water, water everywhere – but which drop should I drink?



**Susie Hill** and **Caryn Zinn** wade into the world of water and explore one of life's essentials: what we should be drinking, how much and what type. Grab your sipper bottle and read on.

**THIRSTY? YOU MUST** be – Kiwis are guzzling around 36 million litres of bottled water a year. That's 9 litres each per year, and that intake is over and above everything else we throw back – coffee, tea, milk, juice, soft drinks and alcohol. Some of us – not least of all the bottled water manufacturers – must surely be taking the 2L or "eight glasses of water a day" message very seriously.

According to AC Nielsen there are 126 types of bottled water on New Zealand shelves. That includes sparkling, mineral, distilled, purified, sports and flavoured waters, of which there are at least 10 different brands.

## So why buy bottled water?

Convenience is the big advantage of bottled water. Many people like the choice of cold waters on offer when they are out of the house. We are often out doing our thing: beaching, gyming, walking, cycling, working, driving, shopping – all rather dehydrating activities. So it's great to have a healthy, quick and convenient alternative to soft drinks, juice, caffeine and alcohol – something calorie and stimulant free.

### Is bottled water better for us than tap water?

Bottled water doesn't have the chlorine that tap water has. For this reason some people prefer its taste. Bottled water also often has minerals either naturally occurring or that have been added. The mineral content is too small, however, to have much impact on your health. In some cases there is very little difference in chemical profiles between bottled water and tap water.

There's also the issue of fluoride. Fluoride is a mineral which helps prevent tooth decay and it's not in bottled water. Because of this lack of fluoride, many dentists are concerned an increasing number of children and teenagers are inadvertently cutting fluoride from their diet by

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replacing tap water with bottled and filtered varieties.

Whether or not bottled water is better than water out of the tap really depends on the quality of your tap water. In most parts of this country, tap water meets or exceeds all national drinking water standards. However, some small communities (around 29% of us) have "microbiologically non-compliant drinking water", according to the Ministry of Health's review of drinking water

quality. This doesn't necessarily mean those people are receiving unsafe water. Some supplies can't be tested by the Ministry.

To check how your individual water supply shapes up, visit [www.drinkingwater.org.nz](http://www.drinkingwater.org.nz) where the ESR publishes its test results for the country's water.

### What about water filters?

Many people dislike the taste of chlorine in tap water, and install

## What does water do in the body?

- At birth our total body mass is around 75% water (even higher for premature babies), but by 2 years of age it's around 55-60% - which is where it stays into adulthood.
- Nearly all of the chemical reactions in the body occur in water, which acts as a solvent.
- In much the same way that water is used in the radiator of a car, water is important in our bodies to maintain our body temperature within a tight range despite all of the internal and external forces that have an effect on it. Like the heat generated from all

those chemical reactions or the cold of a wintry day.

- Water is used to lubricate; it's a major component of mucous and other lubricants in the body
- We lose water every day via urine, faeces, our skin and our breath. Normally water loss is equivalent to water gain, so our body fluid volume remains constant.



water filters in the home. These usually contain activated carbon filters which improve the taste of the water. If you have a water filter, make sure you replace the filter regularly – every few months is ideal. If you don't, it can result in bacteria-contaminated water, as bacteria feed off organic matter trapped in the filter. Water filters do not remove disease-causing microorganisms from water. They're designed to be used on treated tap water.

### Different types of water

There are times when we want something more – a tasty treat, a fizzy something, a pick me



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up – that is still healthy. That's where flavoured and sports waters and sports drinks come into play.

### Flavoured water

Flavoured water comes in still and sparkling options. They include brands like H2Go and Aquashot. Take care to read the labels though; the sparkling variety can contain up to double the amount of sugar that the still has. (This is not the case with plain sparkling water). These drinks have a dash of fruit flavouring with extra sugars – equivalent to around one teaspoon per 250ml glass. This is low compared to soft drinks, which contain the equivalent

### CAN YOU DRINK TOO MUCH WATER?

Though uncommon, it's possible to drink too much water. Drinking excessive amounts can overwhelm your kidneys' ability to get rid of the water. This can lead to hyponatremia, a condition in which excess water intake dilutes the normal amount of sodium in the blood. This can lead to confusion, weakness, lethargy, delirium, coma and death. This has been associated in recent years with marathon runners and young people taking certain drugs at dance parties and inadvertently overdosing on water.

of nearly 7 teaspoons of sugar per 250ml. Flavoured waters, therefore, can hydrate, satisfy the taste buds and spare the calories all at the same time.

### Sports waters

These, too, are flavoured waters, with the same sugar content, but generally also contain a range of vitamins, minerals, and,

more recently, antioxidants. They include brands like Mizone, Charlie's and Waterplus.

Nutritionists say that no one should be relying on these additives to provide essential nutrients. There is no definitive evidence, as yet, to say vitamins and antioxidants added to drinks are as effective as those we get naturally from eating food.

Although you shouldn't rely on a drink to give you your vitamins, choosing a flavoured water in preference to a soft drink or juice is probably a good idea. You'll cut the sugar, and therefore energy you're consuming.

### Sports drinks

Aha – these are a different kettle of fish altogether. They are specifically for the athlete, not for the couch potato getting thirsty on a packet of peanuts.

Sports drinks are designed to replace fluid, carbohydrate and electrolytes during and after exercise, longer than one hour. They contain carbohydrates (in higher levels than sports waters, but still less than soft drinks, energy drinks and juice) nutrients and electrolytes. The carbohydrate is important in sports drinks as it slows emptying of the fluid from the stomach, so that more fluid is absorbed. Look for brands like Gatorade,

Powerade or Replace, which also comes in powder form.

Electrolytes are salts found in body fluids and tissues that conduct electricity and must be present in finely balanced amounts in your cells to control processes like the amount of water in your body, heart function, concentration and muscle and nerve action. When you exercise heavily, you lose electrolytes in your sweat.

For most children water is adequate for fluid replacement during and after exercise. Lost nutrients should be replaced with food after exercise.

However, there is concern that constant sipping of sports drinks by children is causing tooth decay, as the teeth are constantly bathed in a sugary solution.

**tip** if you want to sip on sports drinks, do so with a meal and make sure you look after your teeth!

### Energy drinks

Energy drinks, like Red Bull and V, are packed full of sugars and stimulants, like taurine, guarana and caffeine. They can certainly perk you up for that 3pm meeting – it's just that some time later you may feel worse due to the peaks and troughs in your blood sugar. Excessive consumption of caffeine can cause restlessness, sleeping difficulty, anxiety, headaches and accelerated heart beat. So save these drinks for the odd occasion rather than a daily fix.

### In a nutshell

Water is the elixir of life. It keeps you hydrated and healthy. Don't rely on water with added "goodies" for your nutrients and antioxidants, though; it won't compensate for a poor diet. There's no doubt water – flavoured or otherwise - is a healthy beverage choice.



# Daily fluid requirements – how much should we be drinking?

“Eight glasses a day”... it’s a common recommendation. But where does it come from? You might be interested to know some experts say we don’t actually need that much water on a daily basis.

In 2002, US kidney specialist Professor Heinz Valtin sought scientific evidence to support the claim we should drink eight glasses – or 2L – of water a day. Valtin couldn’t find any data to support this, and concluded that it’s a misinterpretation of old advice. Also contrary to popular opinion, he found (and subsequent studies have supported) that coffee, tea, milk, juice and soft drinks can count toward the daily fluid total.

Valtin and other scientists say your body will tell you when you need water by the appearance of thirst. Our brains carefully control water balance, being sensitive enough to detect just a two percent change in blood concentration, and will stimulate thirst.

## So how much water do we really need?

The average total daily requirement for **all** fluid intake, in a moderate climate like ours, is 2.5L. We absorb quite a bit of water from the food we eat – typically around 1L per day. We get 300ml from the metabolism of food (water is a byproduct of this chemical process that produces energy) which leaves 1.2L (about

What’s in the water?		
FLUID	Per 100ml Energy kJ	Per 100ml Carbs
<b>WATER</b> (still and sparkling)	-	-
<b>FLAVOURED WATER</b> still sparkling	42kJ 69kJ	2.5g 4.1g
<b>SPORTS WATER</b>	43kJ	2.5–3.34g
<b>SPORTS DRINKS</b>	120–138kJ	7.1–8.1g
<b>ENERGY DRINKS</b>	170–192kJ	9.5–11.2g
<b>FORTIFIED JUICE</b>	177–288kJ	10–16.8g

four glasses) we need to take in from **all** beverages, including water, tea, coffee, milk and juice.

Constantly sipping to try and get 2L daily may put extra work on your kidneys, and can potentially cause high blood pressure – as excess water intake can mask excess salt intake – and dental decay, by diluting the mineral salts in saliva that protect tooth enamel.

So the best advice? Obey your thirst and keep an eye on your urine. So long as it’s a normal pale yellow colour, you’re probably getting enough fluids.

Note: there are exceptions to this amount; large intakes of fluid are advisable for the treatment or prevention of kidney stones and are also needed during strenuous physical activity, long plane flights, or hot weather. Also, as we age

our thirst mechanism becomes less reliable, so older people need to monitor their fluid intake rather than relying on thirst alone.



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