

Lifestyle/ Health & Wellness

To filter or not to filter? Hi-tech devices tap into clean water debate

Fears over chlorine and fluorine and excessive heavy metals found in supplies in Hong Kong housing estates spark demand for purifiers to improve quality

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Peta Tomlinson

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Published: 3:13pm, 29 Oct, 2018 ▾

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Heated debate about whether tap water is good enough for consumption has helped to spark demand for hi-tech products that filter chlorine and fine particles in water used in the home. Photo: Shutterstock

“Water, water everywhere, nor any drop to drink,” bemoaned the becalmed sailor in Samuel Taylor Coleridge’s *The Rime of the Ancient Mariner*.

So what is the deal with our water?

Can we drink it, straight from the tap – or not?

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Some people will not even bathe in tap water without intervention.

However, there are now new technologies that claim to improve water, with one even purporting to improve the water we use for mopping the floor.



Humans have been drinking plain water for millennia. What we need from the drinking water is just water – plain, clean, water

Dr Samson Wong, assistant professor, University of Hong Kong

Should all this angst exist in a world-class city such as Hong Kong?

Dr Samson Wong, assistant professor at the University of Hong Kong's department of microbiology, feels that it is a case of much ado about nothing.

He agrees that past reports of excessive heavy metals in water in some Hong Kong housing estates, visibly discoloured water or the presence of foreign bodies in tap water might have influenced public perception.

“Humans have been drinking plain water for millennia,” he says.

“Do we suffer from poor absorption of water without the addition of all these exotic substances?”

“What we need from the drinking water is just water – plain, clean, water.”

Nevertheless, a whole industry has flowed from the idea that even clean water can be improved.

Rowena Gonzales, of Liquid Interiors, a healthy and eco-conscious interior design consultancy, says her clients are often keen to use technology that modifies the water in their homes.

Ionising water filter

She says one popular item is a Kangen water filter, which changes the pH balance of water through electrolysis, producing the type of ionised alkaline and acidic waters favoured by people on a detox diet.

The user can adjust the pH to a level recommended for different purposes – such as, for drinking, cleaning children's toys, or as a hand sanitiser.

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However, it can get complicated: it recommends using plain tap water for making baby milk formula, although her view – consistent with opinions quoted in various online parenting forums – is not to give alkaline water to infants because of the lack of scientific research to show its long-term effects on health.



When you bathe in [regular water], the chorine and its bi-product chloramine is absorbed by your skin – the largest organ

Rowena Gonzales, Liquid Interiors

The Hong Kong government's Family Health Service website also recommends using boiled tap or distilled water to make baby milk formula.

It says the city's water is among the safest in the world – as long as the plumbing in your property is properly maintained.

Whole-home water systems filter the water at every tap, including the washing machine, but while these products will catch any sediment, they will not remove the chlorine, which is the concern for many people.

Chlorine, which is a disinfectant, is added to the water supply in many countries – including Hong Kong – to kill disease-causing bacteria in the water itself and in the pipes that transport it.

It is also a toxic chemical that has brought safe drinking water to many parts of the world.

For decades authorities have argued that a low dose will not hurt us.

However, a significant school of thought counters that chlorine, along with the chemical fluoride – added to public water supplies to reduce tooth decay – actually does more harm than good.

A reverse osmosis system reportedly removes both chlorine and fluoride, along with other contaminants – and it is claimed it produces the best-tasting water.

It has been reported that this technology is used by most drinks plants producing bottled water.

Vitamin C-infused showers



A vitamin C shower head from Sonaki, which is used with a cartridge that can reportedly filter out about 10,000 litres of water before it needs to be changed.

For those people concerned about chlorine absorption through the skin, a shower filter may assuage those fears.

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This has given rise to the wellness trend of shower systems that remove not only chlorine from the water, but infuse it with vitamin C.



Does the addition of minerals or changing the pH of the

drinking water give us additional beneficial effects? No Dr Samson Wong

“When you bathe in [regular water], the chlorine and its by-product chloramine is absorbed by your skin – the largest organ,” Gonzales says.

The absorption is believed to be higher when the water is hot than when you drink it, she says – adding that there are stories of people suffering from skin rashes and hair loss as a result of chlorinated shower water.

Apart from improving hair and skin, vitamin C showers reportedly also boost the body’s immune system.

Some brands, such as Sonaki and Vita Fresh, let you keep your own shower head – and simply add on capsules containing powdered vitamin C – which clearly need replacing after they run out.

Sonaki says one cartridge can filter about 10,000 litres (2,640 gallons) of water, which typically lasts between six to eight weeks, depending on the frequency and duration of use.

Other brands, such as Heaven Fresh, have a concealed filter and vitamin C cartridge built into the shower head.

There is said to be no difference between the two types in terms of effectiveness – so, it is a matter of personal choice – but the add-on type allows users to more easily see when the vitamin C is running low.

Gonzales says she had read mixed reviews, but decided to try them.

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“I have eczema and my skin often feels itchy and irritated after taking a shower,” she says. “Within a week of installing the shower I noticed significant changes: my skin felt softer and less irritated; my hair was smoother and more manageable.”

Over time, Gonzales says she has found her Sonaki vitamin C shower has led to a “slight” improvement.

However, her husband, has not noticed any difference.

She believes it all comes down to an individual’s sensitivity to the chemical.

How ozone can help clean your home



Panasonic has created the Ozone Water device – using the powerful oxidising action of

ozone – which aims to improve the quality of water for use in household chores such as mopping the floor. Photo: Shutterstock

Panasonic has developed technology that aims to improve the water used for household cleaning chores.

It says its new Ozone Water device – while not intended for drinking water – will “be an indispensable device to keep wet areas such as toilets, bathrooms, and kitchens squeaky clean”.

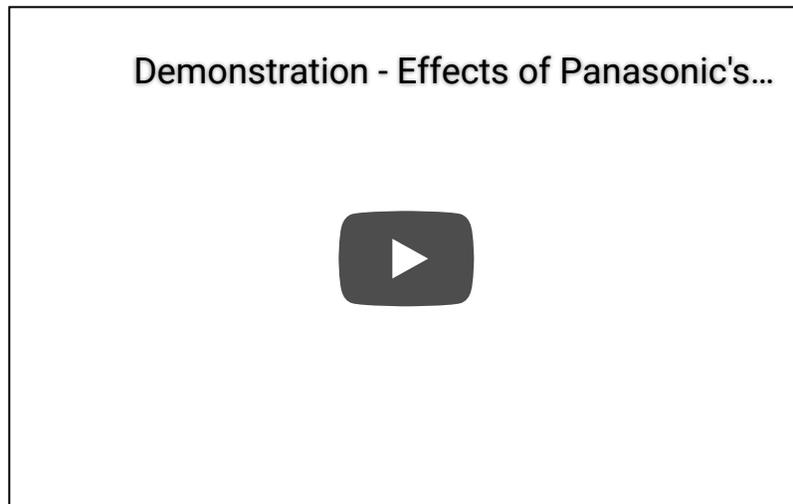
Ozone has a powerful oxidising action that can inhibit bacteria and mould, as well as deodorise.

The technology is already used in many facilities which require high-level sanitation, such as water purification plants, sewage plants, and semiconductor factories.

Panasonic says food factories have begun to use ozone water to wash sliced vegetables.

For household use, Panasonic’s palm-sized device connects to the tap and a power point.

As tap water flows through the device, the H₂O molecules are energised by electrodes to create ozone, which dissolves instantly.



To filter or not to filter?



For some people cooking with filtered or unfiltered water makes no noticeable difference, but chefs in many high-class restaurants always cook with filtered water to avoid the flavour of food being affected by chlorinated tap water. Photo: Shutterstock

Chef Don Trimble of Chomchomyomyom, a Sheung Wan supper club and private kitchen, says he is not convinced that there is any noticeable difference in the flavour of the food when they are used for cooking.

However, he always cooks with filtered water as a precaution against heavy metals or particles from pipes.

That is also the practice in high-end restaurants, he says.

So, what is it to be: high pH alkaline, reverse osmosis or deionised water?

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Apart from possibly filtering out particles, Wong sees little benefit in fiddling with nature.

“Does the addition of minerals or changing the pH of the drinking water give us additional beneficial effects? No,” he says.

“With a normal healthy diet and normal kidneys, we get the required minerals from what we eat and our kidneys maintain a normal pH and concentrations of electrolytes [minerals] in our blood and body fluids.”

Wong says the many consumer appliances that boast about their ability to add beneficial substances to water “are not cheap at all, but I would be most interested to see any real scientific proof of their beneficial effects”.