

How to deliver drinking water chlorine-free

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Chlorinated tap water is the norm around the world, but the experiences of several European countries is that it doesn't have to be. The benefits of foregoing chlorine include better-tasting and, potentially, healthier water.

If you have spent time in southern Europe or overseas, you are probably familiar with the taste of chlorinated tap water. Distributing tap water

with residual chlorine is a century-old strategy used to protect populations by preventing the proliferation of waterborne pathogens. But is it necessary? In a commentary published in the journal *Science*, researcher Urs von Gunten from EPFL and his colleagues at Eawag provide evidence from Europe showing that chlorine could be forgone if other protective barriers are in place.

Three factors determine the quality of tap water: the quality of its source, of its treatment, and of its distribution network. Decades of experience in the Netherlands, Germany, Austria, and Switzerland have shown that, when none of these three elements are compromised, the number of waterborne-disease outbreaks are low, even lower than in countries that add [chemical disinfectants](#) to their water supply in order to compensate for poorly maintained networks, insufficient water treatment, or contaminated water sources.

But the researchers point out that distributing the water without added chlorine comes at a cost. It requires protecting groundwater sources, properly controlled water treatment, and regular maintenance of the water [distribution network](#). But where chlorine can be foregone, the benefits go beyond improving the taste of [tap water](#). When disinfectants, like [chlorine](#), react with natural organic matter that is always present in drinking [water](#), this can lead to the formation of disinfection by-products, some of which are potential carcinogens.

More information: F. Rosario-Ortiz et al. How do you like your tap water?, *Science* (2016). [DOI: 10.1126/science.aaf0953](https://doi.org/10.1126/science.aaf0953)

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