water NEW ZEALAND
The New Zealand Water & Wastes Association Waiora Aotearoa
Ka ora te wai, ka ora te whenua, ka ora ngā tāngata
If the water is healthy, the land is healthy, the people are healthy

COVID-19 and your water supply

Key questions and answers

Can I get COVID-19 from drinking water?

The COVID-19 virus has not yet been detected in drinking-water, and WHO considers the risk to water supplies is low. Drinking-water treated with chlorine is known to effectively kill viruses.

Can the virus be transmitted through raw water and treated water systems? If so, what treatment processes are effective against it?

There is no evidence about the survival of the COVID-19 virus in drinking-water or sewage.

While persistence in drinking-water is possible, there is no current evidence from surrogate human coronaviruses that they are present in surface or groundwater sources or transmitted through contaminated drinking-water.

Laboratory studies of surrogate coronaviruses in well-controlled environments have shown that the virus could, in some circumstances, remain infectious in water contaminated with faeces for days to weeks.

The COVID-19 virus is not expected to be environmentally robust. Conventional treatment of particle removal followed by disinfection should inactivate the virus. Similar viruses have been found to be sensitive to chlorine. For effective inactivation by chlorine, a free available chlorine residual of at least 0.5 mg/L, at a pH <8 and a contact time of at least 30 minutes should be maintained in the distribution system.

Do I need to boil my drinking water?

Boiling your water is not required as a precaution against COVID-19.

Is tap water safe to use for hand washing?

You can continue to use and drink tap water as usual. Washing your hands often with soap and water for at least 20 seconds helps prevent the spread of COVID-19.

Do I need to buy bottled water?

It is recommended that you continue to use and drink tap water as usual. At this time, there are no indications that COVID-19 is in the drinking water supply or will affect the reliable supply of water.

Can I get COVID-19 from wastewater or sewage?

The WHO has indicated that “there is no evidence to date that COVID-19 virus has been transmitted via sewerage systems, with or without wastewater treatment.” (EPA)

Does the virus remain viable once passing through the human body into wastewater?

There is no current information on the likelihood of infection from consuming the virus. The normal acidic conditions within the stomach are thought likely to inactivate the virus, but more research is needed to be certain of this.

There is some evidence the COVID-19 virus can lead to intestinal infection and so may be shed in faeces and that the virus has been identified in a number of case reports.

Will my septic system treat COVID-19?

A properly managed septic tank would be expected to treat COVID-19 the same way it safely manages other viruses often found in wastewater. When properly installed, a septic system is located at a distance and location designed to avoid impacting a water supply well.

Can infected staff effectively seed the water supply system by being sick at work?

Endemic human coronaviruses can persist on inanimate surfaces like metal, glass or plastic for up to 9 days. The possibility of transfer of the virus from a surface into the water supply cannot be ruled out, but the likelihood of such an event making the water supply unsafe *seems* low, though there is currently no evidence to support that assumption. Staff working with water supplies have procedures to manage this risk that they use all the time.

Viruses on surfaces can be efficiently inactivated by surface disinfection.

Regardless of the likelihood of a sick worker introducing the virus into a water supply, *normal best practice* should ensure that individuals who feel ill do not come to work. The worker should absent themselves from work until it is determined that they are not infected.

What risks may this pose for wastewater operators and maintainers?

There is no evidence to date that the COVID-19 virus has been transmitted via sewerage systems, with or without wastewater treatment. Neither is there evidence from the SARS outbreak of those working with sewage and operating wastewater treatment plants becoming infected. (SARS is the result of infection by a virus of similar type to the COVID-19 virus.)

WHO considers aerosolised faecal matter to be a hazard and recommends taking steps to prevent it entering plumbing and ventilation systems. This suggests that aerosol inhalation could be an infection pathway at wastewater treatment plants and provides a rationale for need for appropriate PPE designed to prevent inhalation of airborne particles.

Wastewater Treatment Plant operators should follow best practice and hygiene methods which include safe work practices and using appropriate protective equipment.

The normal hygiene requirements for staff in the water industry should be:

- water workers should wear appropriate PPE, which includes protective outerwear, gloves, boots, and goggles or face shield mask;
- wash their hands frequently; and
- avoid touching eyes, nose and mouth with unwashed hands.

References included:

New Zealand Land Treatment Collective

https://www.who.int/publications-detail/water-sanitation-hygiene-and-waste-management-for-covid-19. ESR, Ministry of Health

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