

Wastewater and Coronavirus (COVID-19): What are the risks?

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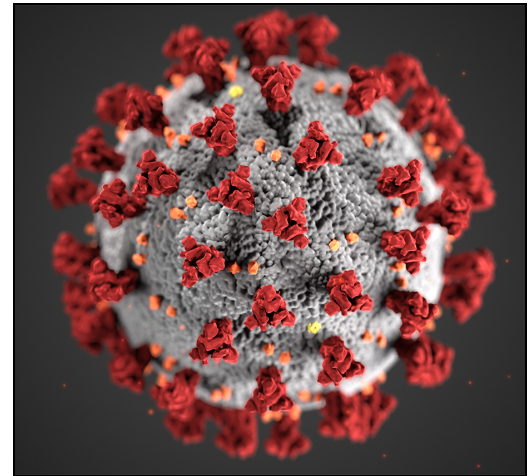
We know that wastewater treatment plant (W/WTP) operators and subsurface sewage treatment system (SSTS) maintainers, service providers and installers are commonly exposed to untreated wastewater that contains disease-causing organisms including pathogens (primarily bacteria and viruses) when cleaning out or repairing septic, holding, and pump tanks along with aerobic treatment units. When wastewater professionals are working on a system, workers are unlikely to know which specific disease-causing organisms are in the wastewater, including COVID-19.

Here is what we know to date

1. The World Health Organization WHO has indicated that "there is no evidence to date that COVID-19 virus has been transmitted via sewer systems, with or without wastewater treatment."
2. Wastewater treatment plants and septic systems treat viruses and other pathogens. COVID-19 is a type of virus that is particularly susceptible to disinfection. Standard treatment and disinfection processes at wastewater treatment plants are expected to be effective. Septic systems use similar processes in conjunction with unsaturated soil to treat pathogens.
3. The U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) states there is no evidence to suggest that additional, COVID-19 specific protections are needed for employees in wastewater management operations, and OSHA encourages workers to follow routing practices to prevent exposure to wastewater.
4. The Center for Disease Control and Prevention (CDC) notes that wastewater and sewage workers should use standard practices of basic hygiene precautions (e.g. handwashing) and wear personal protective equipment (PPE) as prescribed for work tasks. In consultation with local health officials, onsite sewage system professionals should consider the following routine disease prevention practices for onsite sewage system tank cleaning, operation and maintenance, and repairs to help protect service providers from potential infection of COVID-19.

Here is what we don't know yet

COVID-19 concentrations and survival in feces, sewage or water are currently unknown. The virus that causes COVID-19 has been detected in the feces of some patients diagnosed with COVID-19. The amount of virus released from the body (shed) in stool, how long the virus is shed, and whether the virus in stool is infectious are not known. According to research conducted by the Washington Onsite Sewage Association, the aerosolization of sewage through standard methods of pumping pose the greatest unrecognized risk to workers as they found the act of opening the lids on tankage and lifts stations exposed workers to aerosolized pathogens.



The risk of transmission of COVID-19 from the feces of an infected person is also unknown. However, the risk is expected to be low based on data from previous outbreaks of related coronaviruses, such as severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS). There have been no reports of fecal-oral transmission of COVID-19 to date. SARS has been detected in untreated sewage for up to 2 to 14 days. In the 2003 SARS outbreak, there was documented transmission associated with sewage aerosols.

How to protect yourself, your workers and your families

Operators and SSTS professionals performing essential tasks need to protect public health and safety and must continue to work during this outbreak and therefore it is critical that they do so safely. Wastewater professionals must be provided proper personal protective equipment (PPE), be trained on how to use it, and hand washing facilities/waterless sanitizers. Workers should avoid touching their face, mouth, eyes, nose, and open sores and cuts and not chew gum or tobacco while handling sewage. Workers should wash hands with soap and water



immediately after removing PPE or use waterless sanitizers. Do keep in mind that waterless hand sanitizers are not as effective on hands that are dirty with grime and grit therefore it is advisable to

use soap and water prior to eating or drinking. The following PPE is recommended for workers handling human waste or sewage:

- **Goggles** to protect eyes from splashes of human waste or sewage.
- **Protective face mask or splash-proof face shield** to protect nose and mouth from splashes/ aerosolization of human waste or sewage. Depending on the type of work this could include N95 masks with a verification of "face fit" testing for the employee including the limitation of facial hair.
- **Liquid-repellent coveralls** to keep human waste or sewage off clothing.
- **Waterproof gloves** to prevent exposure to human waste or sewage.
- **Rubber boots**: to prevent exposure to human waste or sewage.

Keep in mind that wastewater professionals in high-risk categories due to age, underlying health issues or have family members at risk should be particularly careful working around untreated sewage. Therefore removing work clothes before returning home is advisable.

What about all this toilet paper?

Toilet paper is designed to be flushed and, as long as used in normal amounts, will not cause an issue in WWTP or septic systems. Sanitizer wipes should NEVER be flushed down a toilet (including those labeled flushable). If due to shortages of toilet paper people need to utilize other paper products such as paper towels or facial tissues these items should be placed in the garbage, NOT the toilet.

Is your water safe to drink?

The simple answer is yes. The virus that causes COVID-19 is not spread through drinking water, and the World Health Organization says it hasn't been detected in any water supplies. Conventional water treatment removes or inactivates the virus. There is no need to buy bottled water.

For more information:

<https://www.osha.gov/SLTC/covid-19/standards.html>

<https://www.osha.gov/SLTC/etools/eyeandface/employer/requirements.html>

<https://www.epa.gov/coronavirus/coronavirus-and-drinking-water-and-wastewater#septic>