Scientists say coronavirus can spread through 'aerosolized feces'

By Kenneth Garger

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Closing the toilet lid is highly recommended amid the coronavirus outbreak, according to a report, as a group of researchers have found that the bug can spread through fecal matter that escapes from the bowl during a flush.

The disease caused by the coronavirus, which scientists had already warned can be spread from fecal-oral transmission, can also be transmitted via "aerosolized feces," according to Forbes, citing a study published by the Association for Professionals in Infection Control and Epidemiology.

Aerosolized feces can be propelled into the air through what's called a toilet plume — the spread of aerosols, sometimes containing infectious fecal matter, caused by a flush.

"Close the lid and then flush," a mechanical engineering professor from Purdue University, Dr. Qingyan Chen, told Forbes. He said it was a simple solution to help control the spread of the disease through toilet plumes.

Chen told the outlet that closing the lid can prevent 80 percent of the fecal particles from escaping into the air.

Why You Should Flush With The Lid Down: Experts Warn Of Fecal-Oral Transmission Of COVID-19

Topline: While scientists have warned that COVID-19 can be spread by fecal-oral transmission (hence the importance of post-bathroom hand washing) the disease can also be spread through what is known as "aerosolized feces" which means that it's more important than ever to close the lid of the toilet while flushing, according to experts.

- Because of a phenomenon known as toilet plume, stool or urine can escape from the toilet into the air and spread disease, according to the Association for Professionals in Infection Control and Epidemiology.

- Qingyan Chen, Purdue's James. G. Dwyer Professor of Mechanical Engineering at Purdue University, told *Forbes* there's one "very easy way to help prevent the spread of coronavirus: "Close the lid and then flush."

- 80% of particles that escape from fecal matter into the air can be prevented by closing the lid when flushing, Chen told Forbes.

  - To avoid getting COVID-19 when using a public bathroom, you should wash your hands, then flush (using gloves or paper towel to avoid contact with the handle) to minimize contamination period—and wait one to two minutes to use a public bathroom after someone has finished, says Chen.

  - The danger of fecal-oral transmission is higher for symptomatic people, so if you share a bathroom with a COVID-19 positive individual, disinfect the entire washroom with alcohol or ultraviolet light between uses, Chen also advises.

  - A study from the City University of Hong Kong found that: "A toilet flush can release up to 80,000 polluted droplets and leave them suspended a metre in the air for hours if the lid is left up," according to the South China Morning Post.

- The researcher of this study, Alvin Lai said that "covering the toilet lid while flushing is definitely essential, but it should not be considered a complete prevention," and advised households to regularly clean bathrooms with diluted bleach, use ventilation and close the bathroom doors when not in use.

Key Background: There are four methods of COVID-19 transmission: (1) direct contact or indirect contact (i.e. someone breathing on you or sharing a drink) (2) Droplets, which can be in a cough or skin-to-skin contact (3) Airborne, with COVID-19 passing through the air or via ventilation (4) oral-fecal transmission, meaning that contagions from fecal matter is inadvertently ingested. Though direct or indirect transmission is most likely candidate for transmission, according to Chen, there is no substantial research to trace origins of COVID-19 transmission on a per patient basis.

Qingyan Chen has studied virus spread through transit ventilation systems and is developing a ventilation system that would prevent the spread of pathogens with individuals only breathing their own air, according to Purdue University.