

How long can Ebola live?

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The Ebola virus travels from person to person through direct contact with infected body fluids. But how long can the virus survive on glass surfaces or countertops? How long can it live in wastewater when liquid wastes from a patient end up in the sewage system? In an [article](#) published Dec. 9 in the journal *Environmental Science & Technology Letters*, Kyle Bibby of the University of Pittsburgh reviews the latest research to find answers to these questions.

He and his co-investigators didn't find many answers.

"The World Health Organization has been saying you can put (human waste) in pit latrines or ordinary sanitary sewers and that the virus then dies," says Bibby, assistant professor of civil and environmental engineering in Pitt's Swanson School of Engineering. "But the literature lacks evidence that it does. They may be right, but the evidence isn't there."

Bibby and colleagues from Pitt and Drexel University explain that knowing how long the deadly pathogen survives on surfaces, in water, or in liquid droplets is critical to developing effective disinfection practices to prevent the spread of the disease. Currently, the World Health Organization guidelines recommend to hospitals and health clinics that liquid wastes from patients be flushed down the toilet or disposed of in a latrine. However, Ebola research labs that use patients' liquid waste are supposed to disinfect the waste before it enters the [sewage](#) system. Bibby's team set out to determine what research can and can't tell us about these practices.

The researchers scoured scientific papers for data on how long the virus can live in the environment. They found a dearth of published studies on the matter. That means no one knows for sure whether the virus can survive on a surface and cause infection or how long it remains active in water, [wastewater](#), or sludge. The team concluded that Ebola's persistence outside the body needs more careful investigation.

To that end, Bibby recently won a \$110,000 National Science Foundation grant to explore the issue. His team will identify surrogate viruses that are physiologically similar to Ebola and study their survival rates in water and wastewater. The findings of this study will inform water treatment and waste-handling procedures in a timely manner while research on the Ebola virus is still being conducted.

Provided by University of Pittsburgh

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