



TOPIC

How Long Does Coronavirus Last on Surfaces?

The coronavirus responsible for the disease COVID-19 can remain intact on surfaces for anywhere up to 72 hours, [according to a study](#) conducted by US researchers.

The precise figure depends heavily on the type of surface infected droplets land on, and might also rely on the density of virus particles in the spray, and other environmental conditions - such as temperature and sunlight.

But with so many particles found to still be infectious after being in the air for a number of hours, the evidence shows why we need to be so concerned with simple hygiene.

Scientists from the National Institute of Allergy and Infectious Diseases, the Centers for Disease Control, Princeton University, and University of California, Los Angeles, experimented with the SARS-CoV-2 virus under laboratory conditions to determine how fast virus particles broke down outside of a host body.

[Previous research](#) examining the literature on animal and human strains of coronavirus provided insight into the virus's ability to keep its integrity as it moves through the environment. But until now,

experimental evidence on new SARS-CoV-2 has been limited.

The virus behind the [2003 SARS epidemic](#), SARS-CoV-1, was also tested for comparison, with strains of both pathogens sprayed as micrometre-sized droplets onto various surfaces including cardboard, copper, and plastic.

Just hanging about in the atmosphere, the effect of factors such as [UV light and heat](#) causes [the mix](#) of RNA, fatty membrane, and protein making up the particles to steadily break down in a few hours.

Dropped onto **plastic**, the two virus strains appear to be able to stay intact far longer. Only half of the SARS-CoV-2 particles broke apart in just under seven hours, for example, with viable coronavirus particles still detected up to three days later.

Stainless steel was almost as bad, with a half-life for SARS-CoV-2 of 5.6 hours.

Copper, on the other hand, failed to provide similar protection for either strain, with the number of viable particles capable of causing disease vanishing within just four hours for SARS-CoV-2, and eight hours for SARS-CoV-1.

Similarly, on **cardboard**, no viable SARS-CoV-2 particles could be found after 24 hours, or SARS-CoV-1 after eight.

There are still a number of variables to keep in mind. Variations in individual results show how much the timing is affected by subtle differences.

The laboratory was also kept at a fairly consistent 21 to 23 degrees Celsius, and 65 percent humidity. Just how this latest virus behaves in other conditions of lighting, humidity, and temperature is left to be seen.

What does this mean for the COVID-19 pandemic?

While the figures weren't identical for each of the strains, they were similar enough to raise questions over why the two epidemics have

spread in such dramatically different ways.

In 2003, SARS-CoV-1 spread out of China through 26 countries, causing more than 8,000 known infections. The 2020 SARS-CoV-2 [pandemic](#) has far exceeded the rate and reach of the previous coronavirus infection, leading researchers to investigate reasons for the difference.

With differences in their ability to remain viable in the environment ruled out, other possibilities need to be considered, including the likelihood of infected individuals failing to experience symptoms in the same way.

On a more practical front, the study reaffirms **the need to disinfect surfaces** – especially those made of plastic and stainless steel – where possible. In addition, after touching any of these surfaces, it's important to [wash your hands](#) with soap and water.

This research was published in [The New England Journal of Medicine](#).

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