

Presymptomatic virus patients can contaminate environments: study

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Presymptomatic coronavirus patients can contaminate their environments, according to a study performed in China

Coronavirus was detected on several surfaces in hotel rooms where two presymptomatic Chinese students were quarantined before being

diagnosed with the disease, according to a study released on Monday.

For the study, published in the *Emerging Infectious Diseases* journal of the US Centers for Disease Control and Prevention (CDC), researchers in China examined the hotel rooms of the two students, who returned to China from studying abroad on March 19 and March 20.

They did not display any virus symptoms at the time and were transferred to a hotel for 14 days of quarantine.

On the morning of the second day in quarantine, they remained presymptomatic but both tested positive for COVID-19 and were hospitalized.

About three hours after they tested positive, the researchers sampled various surfaces in their rooms.

These included door handles, [light switches](#), faucet handles, thermometers, television remotes, [pillow](#) covers, duvet covers, sheets, towels, bathroom door handles, toilet seats and toilet flushing buttons.

A total of 22 samples were collected from the two rooms and eight tested positive for COVID-19.

Six were from the room of a student identified only as Patient A. They were from the light switch, bathroom door handle, sheet, duvet cover, pillow cover and towel.

In Patient B's room, positive samples were detected on a faucet and pillow case.

The researchers said the study "demonstrates extensive environmental contamination of SARS-CoV-2 RNA in a relatively short time."

They noted that a higher viral load was detected after prolonged contact with sheets and pillow covers.

"The detection of SARS-CoV-2 RNA in the surface samples of the sheet, duvet cover, and pillow cover highlights the importance of proper handling procedures when changing or laundering used linens of SARS-CoV-2 patients," they said.

"In summary, our study demonstrates that presymptomatic patients have high viral load shedding and can easily contaminate environments," they said.

The research was conducted by scientists at the Qingdao Center for Disease Control and Prevention, the Shandong Provincial Center for Disease Control and Prevention, the Global Health Research Center at Duke Kunshan University and the Beijing Institute of Microbiology and Epidemiology.

Researchers around the world have been looking at how long the virus can survive on various surfaces. Studies have shown it can live between three hours and seven days, depending on the material, according to the Cleveland Clinic.

More information: Fa-Chun Jiang et al. Detection of Severe Acute Respiratory Syndrome Coronavirus 2 RNA on Surfaces in Quarantine Rooms, *Emerging Infectious Diseases* (2020). [DOI: 10.3201/eid2609.201435](https://doi.org/10.3201/eid2609.201435)

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