

COVID-19 and Surface Transmission

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ABSTRACT

SARS-CoV-2 belongs to the broad family group of viruses—coronaviridae, which is responsible for the COVID-19 pandemic. This virus is extremely infectious; hence, different countries are following various measures to slow down its spread. Treatment strategies mainly revolve around symptomatic measures with few antivirals shown to have some promising results. The mainstay to cope with this pandemic remains via limiting the transmission rates.

Keywords: Infectious, limiting the transmission rates, Pandemic.

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SARS-CoV-2 belongs to the broad family group of viruses—coronaviridae, which is responsible for COVID-19 pandemic.

This virus is extremely infectious because of which different countries are following various measures to slow down its spread. Treatment strategies mainly revolve around symptomatic measures, and very few antivirals have shown promising results. Therefore, based on what is currently known, the mainstay to cope with this pandemic remains via limiting the person-to-person transmission rates.

Asymptomatic carriers constitute the majority (80%) of transmission source,¹ and rest are from symptomatic individuals. The primary and most important mode of transmission for COVID-19 is through close contact from person-to-person. Based on data from lab studies on COVID-19, and what we know about similar respiratory diseases, it may be possible that a person can get COVID-19 by touching a surface or object that has the virus on it and then touching their own mouth, nose, or possibly their eyes.

While exact percentage of mode of transmission is not known till date, but various methods that are known for transmissions and the approximate duration of stability of this virus in them includes:

Sneezing/coughing/talking generating droplets—2 hours²

Aerosol transmission—3 hours²

Fomites—Hours to days

Feces and urine—1 to 2 days²

Although fomites are less common mode of transmission,² one should still keep in mind the contagious nature of the virus and have a basic knowledge of the stability of this virus on various surfaces. This can further help in breaking the chain of transmission of the virus (Table 1).

There are some studies proving different duration of stability of virus on different objects, but in general survival of this virus varies from 2 to 7 days on different surfaces depending upon its nature. This virus seems to have more stability on smooth surfaces⁴ when compared to the rough ones.

In conclusion, adopting personnel care measures like use of masks, maintaining social distancing, regular hand hygiene, and use of disinfectant for frequently used items is mainstay for prevention of spread of this virus, but if we know the stability of this virus on different surfaces and disinfect those surfaces accordingly, it can very well aid in breaking the transmission chain. Further, it can be stated that there should be regular disinfection of high touch

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Table 1: Stability of virus on various surfaces

S. no.	Type of surface	Stability
1	Plastic ³	Approx. 72 hours
2	Stainless steel ³	Approx. 48 hours
3	Copper ³	Approx. 4 hours
4	Cardboard ³	Approx. 24 hours
5	Viral transport media at 70°C ⁴	Approx. 5 minutes
6	Viral transport media at 4°C ⁴	Approx. 14 days
7	Wood ⁴	Approx. 2 days
8	Cloth ⁴	Approx. 2 days
9	Tissue paper ⁴	Approx. 3 hours
10	Glass ⁴	Approx. 4 days
11	Hard soap ⁴	Approx. 5 minutes
12	Mask (outer layer) ⁵	Approx. 7 days

surfaces in household common areas (e.g., tables, hard-backed chairs, doorknobs, light switches, phones, tablets, touch screens, remote controls, keyboards, handles, desks, toilets, and sinks).

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