

In brief

Fomite transmission and deep cleaning

3 December 2021

Fomite transmission

- In February 2020, the World Health Organisation (WHO) noted [fomites as a potential route of COVID-19 transmission](#).¹ However, in July 2020, an update noted that despite consistent evidence of SARS-CoV-2 RNA on certain surfaces, there is [no direct evidence of fomite transmission](#).²
- Studies have reported consistent evidence of [SARS-CoV-2 contamination of surfaces](#) and the survival of the virus on certain surfaces; however, [fomite transmission](#) is unlikely.¹⁻⁶
- The [US Centers for Disease Control and Prevention](#) reports the risk of infection through contact with contaminated surfaces to be low.⁷

Deep cleaning

- Despite the low risk of fomite transmission, there continues to be significant investment in [deep-cleaning and disinfection to reduce potential surface contamination](#). A *Nature* perspective in January 2021 questioned the value of this.⁸
- A [modelling study](#) found transmission from surfaces was unlikely where shedding was reduced by mask wearing, even with infrequent surface cleaning.⁹
- The US Centers for Disease Control and Prevention advises if a COVID-19 positive person is known to have been in a space in the previous 24 hours, cleaning and disinfection is warranted.^{10, 11}
- NSW Health has also provided specific [cleaning guidance](#) for areas where a confirmed or suspected COVID-19 case has been.¹²
- There are recommendations for increased cleaning in public areas such as on NSW [public transport](#).¹³ Cleaning and disinfection protocols are most appropriate when [context-specific](#).¹⁴
- Other infection control measures such as [regular hand washing](#) or [use of alcohol-based hand sanitiser](#) are considered crucial in minimising disease transmission, including infection from surfaces.^{10, 15}

To inform this brief, PubMed and Google searches were conducted using terms related to cleaning, fomites, schools and COVID-19 on 1 April 2021 and 17 November 2021. The Critical Intelligence Unit maintains a living evidence table on [COVID-19 transmission](#).

References

1. World Health Organisation. Report of the WHO-China Joint Mission on Coronavirus Disease 2019 (COVID-19). 2020;2020 [cited 2021 Apr 1]. Available from: <https://www.who.int/docs/default-source/coronaviruse/who-china-joint-mission-on-covid-19-final-report.pdf>

2. World Health Organisation. Transmission of SARS-CoV-2: implications for infection prevention precautions. 2021;2020 [cited 2021 Apr 1]. Available from: <https://www.who.int/docs/default-source/coronaviruse/who-china-joint-mission-on-covid-19-final-report.pdf>
3. South Australian Health and Medical Research Institute, Health Translation South Australia and the Commission on Excellence and Innovation in Health. COVID-19 Evidence Update: Fomite Transmission of SARS-CoV-2 [Internet]. Australia: Government of South Australia; 2020 Oct 29 [cited 2021 Nov 18]. Available from: <https://www.sahmri.org/m/uploads/2020/11/03/covid-19-evidence-update-can-you-catch-covid-19-from-common-surfaces.pdf>
4. Meyerowitz EA, Richterman A, Gandhi RT, et al. Transmission of SARS-CoV-2: A Review of Viral, Host, and Environmental Factors. *Ann Intern. Med.* 2020 2021/01/19;174(1):69-79. DOI: 10.7326/M20-5008
5. Marcenac P, Park GW, Duca LM, et al. Detection of SARS-CoV-2 on Surfaces in Households of Persons with COVID-19. *Int. J Environ. Res. Public Health.* 2021;18(15):8184. DOI: 10.3390/ijerph18158184
6. Onakpoya IJ, Heneghan CJ, Spencer EA, et al. SARS-CoV-2 and the role of fomite transmission: a systematic review. *F1000Research.* 2021;10:233-. DOI: 10.12688/f1000research.51590.3
7. Centers for Disease Control and Prevention. Science Brief: SARS-CoV-2 and Surface (Fomite) Transmission for Indoor Community Environments [Internet]. United States: Centers for Disease Control and Prevention; 2021 [cited Nov 18 2021]. Available from: <https://www.cdc.gov/coronavirus/2019-ncov/more/science-and-research/surface-transmission.html>.
8. Lewis D. COVID-19 rarely spreads through surfaces. So why are we still deep cleaning? *Nature.* 2021 Feb;590(7844):26-8. DOI: 10.1038/d41586-021-00251-4
9. Kraay ANM, Hayashi MAL, Berendes DM, et al. Risk for Fomite-Mediated Transmission of SARS-CoV-2 in Child Daycares, Schools, Nursing Homes, and Offices. *Emerg. Infect. Dis.* 2021;27(4):1229-31. DOI: 10.3201/eid2704.203631
10. Centers for Disease Control and Prevention. Cleaning and Disinfecting Your Facility: Every Day and When Someone Is Sick [Internet]. United States: Centers for Disease Control and Prevention; 2021 [cited 18 Nov 2021]. Available from: <https://www.cdc.gov/coronavirus/2019-ncov/community/disinfecting-building-facility.html>.
11. Centers for Disease Control and Prevention. Cleaning, Disinfection, and Hand Hygiene in Schools – a Toolkit for School Administrators [Internet]. United States: Centers for Disease Control and Prevention; 2021 [cited Nov 18 2021]. Available from: <https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/clean-disinfect-hygiene.html>.
12. NSW Government. Guidance for businesses with linked COVID-19 cases. 2021 [cited 1 Apr 2021]. Available from: <https://www.nsw.gov.au/covid-19/business/linked-with-positive-worker-case#cleaning-guidance>
13. NSW Government. COVID-19 and hygiene etiquette on our public transport network.[cited 2021 Apr 1]. Available from: <https://transportnsw.info/covid-19/covid-19-hygiene-etiquette-on-our-public-transport-network>
14. Zhang DX. SARS-CoV-2: air/aerosols and surfaces in laboratory and clinical settings. *J Hosp Infect.* 2020 Jul;105(3):577-9. DOI: 10.1016/j.jhin.2020.05.001
15. Castaño N, Cordts SC, Kurosu Jalil M, et al. Fomite Transmission, Physicochemical Origin of Virus-Surface Interactions, and Disinfection Strategies for Enveloped Viruses with Applications to SARS-CoV-2. *ACS Omega.* 2021 Mar 16;6(10):6509-27. DOI: 10.1021/acsomega.0c06335

SHPN: (ACI) 211057 | TRIM: ACI/D21/695-60 | Edition 1