This report was published on April 9, 2020. To produce this report, CADTH used a modified approach to the selection, appraisal, and synthesis of the evidence to meet decision-making needs during the COVID-19 pandemic. Care has been taken to ensure the information is accurate and complete, but it should be noted that international scientific evidence about COVID-19 is changing and growing rapidly.
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About CADTH: CADTH is an independent, not-for-profit organization responsible for providing Canada’s health care decision-makers with objective evidence to help make informed decisions about the optimal use of drugs, medical devices, diagnostics, and procedures in our health care system.

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Questions or requests for information about this report can be directed to requests@cadth.ca.
**Research Questions**

1. What is the lifespan of severe acute respiratory syndrome coronavirus 2 on different materials?
2. What is the evidence regarding severe acute respiratory syndrome coronavirus 2 transmission via materials?

**Key Findings**

One non-randomized study was identified regarding the lifespan of severe acute respiratory syndrome coronavirus 2 on different materials. No clinical evidence was identified regarding severe acute respiratory syndrome coronavirus 2 transmission via materials.

**Methods**

A limited literature search was conducted by information specialists on key resources including MEDLINE, the Cochrane Library, the University of York Centre for Reviews and Dissemination (CRD) databases, the websites of Canadian and major international health technology agencies, as well as a focused internet search. The search strategy was comprised of both controlled vocabulary, such as the National Library of Medicine’s MeSH (Medical Subject Headings), and keywords. The main search concepts were fomite materials and SARS-CoV-2. No filters were applied to limit the retrieval by study type. The search was also limited to English language documents published between January 1, 2019 and April 7, 2020. Internet links were provided, where available.

**Selection Criteria**

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

**Table 1: Selection Criteria**

| Population                                                                 | Q1: Materials that may come into contact with severe acute respiratory syndrome coronavirus 2 (e.g., plastic, cardboard)  
| Q2: People exposed to materials that may have come into contact with severe acute respiratory syndrome coronavirus 2 (particularly residents and staff in long-term care and residential care facilities) |
| Exposure                                                                   | Q1: Exposure to severe acute respiratory syndrome coronavirus 2  
| Q2: Materials or objects that may have been exposed to severe acute respiratory syndrome coronavirus 2 (e.g., retail products such as groceries, cardboard, plastic) |
| Comparator                                                                  | Not applicable |
| Outcomes                                                                   | Q1: Laboratory outcomes (e.g., severe acute respiratory syndrome coronavirus 2 longevity)  
| Q2: Clinical outcomes (e.g., transmission of severe acute respiratory syndrome coronavirus 2) |
| Study Designs                                                               | Randomized controlled trials and non-randomized studies |
Results

One non-randomized study\(^1\) was identified regarding the lifespan of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) on different materials. No relevant randomized controlled trials were identified.

Additional references of potential interest are provided in the appendix.

Overall Summary of Findings

One non-randomized study\(^1\) was identified regarding the lifespan of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) on different materials. The authors of this non-randomized study\(^1\) reported that SARS-CoV-2 was viable on plastic and stainless steel for up to 72 hours. Viable SARS-CoV-2 was also detected on copper for up to 4 hours and on cardboard for up to 24 hours.\(^1\)

References Summarized

Randomized Controlled Trials

No literature identified.

Non-Randomized Studies

Appendix — Further Information

Systematic Reviews

Non-Randomized Studies — Alternative Outcomes

Preliminary Reports — Not Peer-Reviewed

Disclaimer from medRxiv: “Caution: Preprints are preliminary reports of work that have not been certified by peer review. They should not be relied on to guide clinical practice or health-related behavior and should not be reported in news media as established information.”


Additional References
See: page 1016.


See: Can the new type of coronavirus be transmitted via food and objects? Can the virus that causes COVID-19 be spread through food, including restaurant take out, refrigerated or frozen packaged foods? Can I get sick with COVID-19 if it is on food?


See: Subject in Focus: Food related considerations, page 2.


See: Have we been able to confirm the length of time that coronavirus lives on surfaces?, page 4.


See: Background, page 1; Evidence of environmental persistence, page 1.


