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Stability and infectivity of coronaviruses in inanimate environment

Ren SY *et al*. Survival of SARS-CoV-2

Shi-Yan Ren, Wen-Biao Wang, Ya-Guang Hao, Hao-Ran Zhang, Zhi-Chao Wang, Ye-Lin Chen, Rong-Ding Gao

Abstract

Background: Severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) is a highly contagious virus that can transmit through respiratory droplets, aerosols, or contacts. Frequent touch of contaminated surfaces in public areas is therefore a potential route of SARS-CoV-2 transmission. The inanimate surfaces have often been described as a source of nosocomial infections. However, summaries on the transmissibility of coronaviruses from contaminated surfaces to induce the coronavirus disease 2019 are rare at present. This review aims to summarize data on the persistence of different coronaviruses on inanimate surfaces. Methods:

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Persistence of coronaviruses on inanimate surfaces and ...

https://www.sciencedirect.com/science/article/pii/S0195670120300463

The analysis of 22 studies reveals that human **coronaviruses** such as **Severe Acute Respiratory Syndrome** (**SARS**) **coronavirus**, **Middle East Respiratory Syndrome** (**MERS**) **coronavirus** or **endemic human coronaviruses** (HCoV) can persist on inanimate surfaces like metal, glass or plastic for up to 9 days, but can be efficiently **inactivated** by **surface disinfection procedures** ...

Cited by: 2 **Author:** Günter Kampf, Daniel Todt, Stephanie ...
Publish Year: 2020

Aerosol and Surface Stability of SARS-CoV-2 as Compared ...

https://www.nejm.org/doi/full/10.1056/NEJMc2004973

11 days ago · A novel **human coronavirus** that is now named **severe acute respiratory syndrome coronavirus 2** (**SARS-CoV-2**) (formerly called HCoV-19) emerged in Wuhan, China, in **late 2019** and is now causing a ...

Stability of SARS coronavirus in human specimens and ...

https://www.semanticscholar.org/paper/Stability-of-SARS-coronavirus-in-human-specimens...

METHODS Using a **SARS coronavirus strain CoV-P9**, which was isolated from pharyngeal swab of a probable **SARS case** in Beijing, its **stability** in mimic human specimens and in mimic environment including surfaces of commonly used materials or in household conditions, as well as its resistance to temperature and UV irradiation were analyzed.

Survival of Severe Acute Respiratory Syndrome Coronavirus ...

https://academic.oup.com/cid/article/41/7/e67/310340

Oct 01, 2005 · Duration of **survival of severe acute respiratory syndrome coronavirus** (**SARS-CoV**) on paper, a disposable gown, and a cotton gown. Effect of different disinfectants and **detergents on SARS-CoV**. After **incubation** with various disinfectants, a reduction in the virus load of >3 log was taken to indicate **inactivation** (table **2**).

Cited by: 76 **Author:** Mary Y. Y. Lai, Peter K. C. Cheng, Wilin...
Publish Year: 2005

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Human coronaviruses can remain **infectious** on **inanimate surfaces** for up to 9 days. Surface disinfection with 0.1% sodium hypochlorite or 62–71% ethanol **significantly** reduces **coronavirus infectivity** on surfaces within 1 min exposure time. We expect a similar effect against the **SARS-CoV-2**. Conflict of interest statement. None declared. Funding Sources

Cited by: 14 **Author:** Günter Kampf, Daniel Todt, Stephanie ...
Publish Year: 2020

Persistence of coronaviruses on inanimate surfaces and its ...

https://www.vioguard.com/.../02/Persistence-of-coronaviruses-on-inanimate-surfaces.pdf

1 Persistence of **coronaviruses** on **inanimate** surfaces and its inactivation with biocidal agents Günter Kampf1*, Daniel Todt 2, Stephanie Pfaender , Eike Steinmann 2 1University Medicine Greifswald, Institute for Hygiene and **Environmental** Medicine, Walter- Rathenau-Straße 49 A, 17475 Greifswald, Germany

File Size: 412KB **Page Count:** 13

Coronaviruses: How long can they survive on surfaces?

https://www.medicalnewstoday.com/articles/...

"**Human coronaviruses** can remain **infectious** on **inanimate surfaces** at **room temperature** for up to 9 days. At a **temperature** of 30°C [86°F] or more, the duration of **persistence** is shorter.

Stability and inactivation of SARS coronavirus.

https://www.ncbi.nlm.nih.gov/pubmed/15118911

In suspension, HCoV-229E gradually lost its **infectivity** completely while **SARS-CoV** retained its infectivity for up to 9 days; in the dried state, survival times were 24 h versus 6 days. **Thermal inactivation** at 56 degrees C was highly effective in the absence of protein, reducing the virus titre to below detectability; however, the addition of 20% protein exerted a protective effect resulting in residual **infectivity**.

Cited by: 93 **Author:** H. F. Rabenau, J. Cinatl, B. Morgenster...

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New Study Shows How Long Coronaviruses Can Live On ...

https://www.iflscience.com/health-and-medicine/new...

Feb 13, 2020 · New Study Shows How Long **Coronaviruses** Can Live On **Inanimate** Objects And Surfaces. ... not to be confused with the newly-named **COVID-19**, the disease caused by ...

Stability and inactivation of SARS coronavirus | SpringerLink

https://link.springer.com/article/10.1007/s00430-004-0219-0

Apr 29, 2004 · We studied the **stability** of **SARS-CoV** under different conditions, both in suspension and dried on surfaces, in comparison with other human-pathogenic viruses, including human **coronavirus** HCoV-229E. In suspension, HCoV-229E gradually lost its **infectivity** completely while **SARS-CoV**

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