

A Summary of Survival Data of COVID 19 & Other Coronaviruses on Surfaces**Andrew A. "Tony" Havics, CIH, PE**

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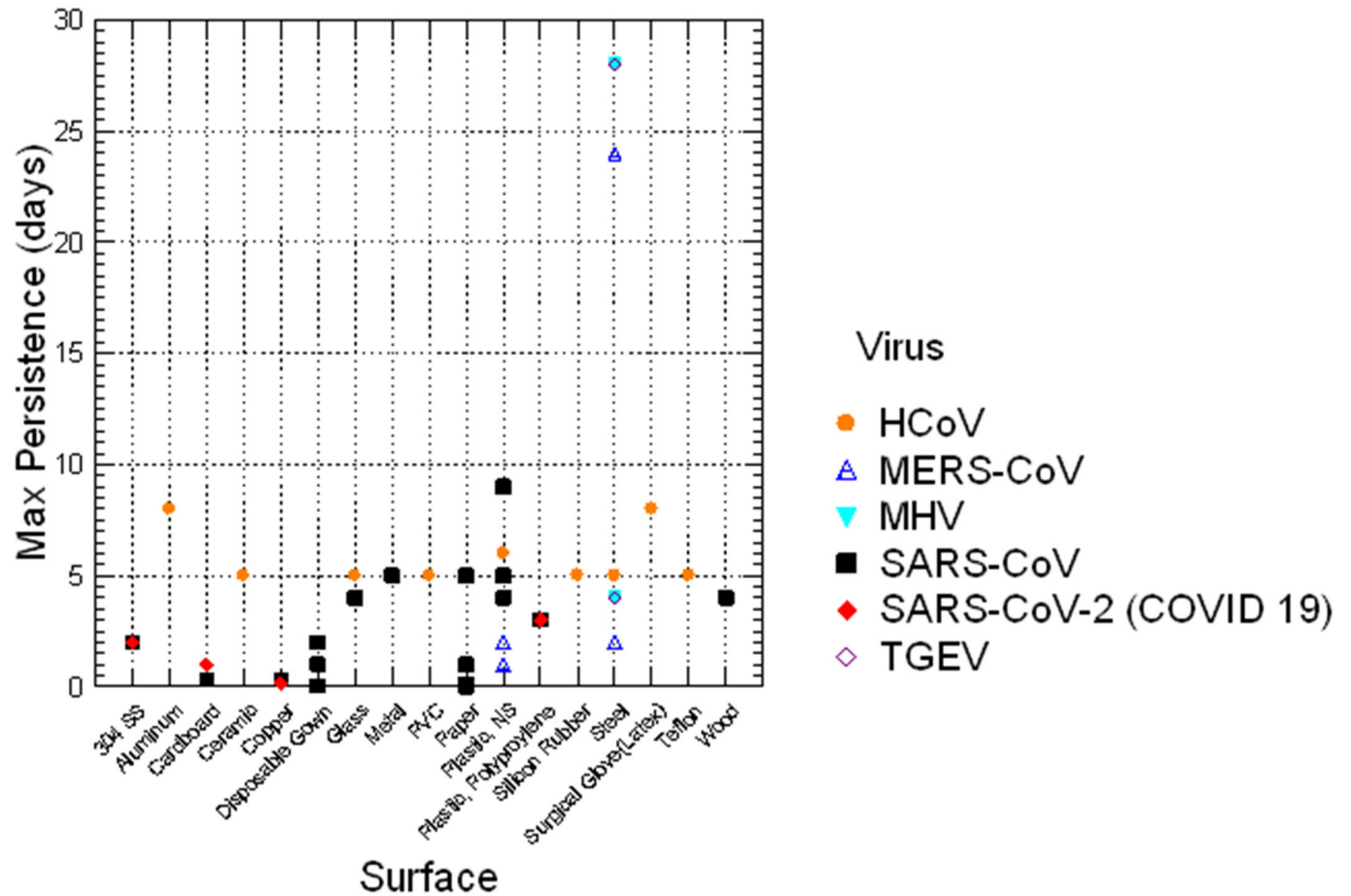
Many questions, and commentary, have arisen regarding the ability of COVID 19 virus to survive on various surfaces. Below is a graph of the available published data. The data includes other coronaviruses that have affected humans (MERS-CoV, HCoV, SARS-CoV) as well as animal coronaviruses (TGEV and MHV). Transmissible gastroenteritis virus (TGEV) is a diarrheal pathogen of swine and a member of coronavirus group 1, and mouse hepatitis virus (MHV) is a respiratory and enteric pathogen of laboratory mice and a member of coronavirus group 2. These last two represent enveloped viruses known to be resistant to environmental degradation (they are much harder than most viruses).

These viruses are identified in the graph as:

<u>ID</u>	<u>Virus</u>
HCoV	Human Coronavirus
MERS-CoV	Middle Eastern Respiratory Syndrome Coronavirus
SARS-CoV	Severe Acute Respiratory Syndrome Coronavirus
TGEV	Transmissible Gastroenteritis Virus
MHV	Mouse Hepatitis Virus
SARS-CoV-2	COVID 19

Data is drawn from references⁽¹⁻⁹⁾. Most of this data has already been summarized by Kampf⁽¹⁰⁾.

One notes that COVID 19 may be viable on surfaces up to 3 days, depending on the surface media. However, even if still viable, the viruses decline exponentially with the longest half-lives of 5.6-6.8 hours on SS 304 and plastic, respectively. The other, more comparable coronaviruses SARS-CoV and HCoV, do not survive past 9 days. This places a reasonable upper limit for survivability of 9 days for COVID 19 on surfaces.



References

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