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# How long can the coronavirus survive on different surfaces?

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## How much are we at risk from the coronavirus on different surfaces?

An investigation into the novel coronavirus (SARS-CoV-2) has examined how long it can survive on different surfaces. The findings of the study recently published by the New England Journal of Medicine, found that in a lab setting the virus remained detectable for up to 72 hours on plastic and steel, 24 hours on cardboard and four hours on copper. If someone touches a contaminated item – a set of keys, their phone, or even cash – can they get sick?

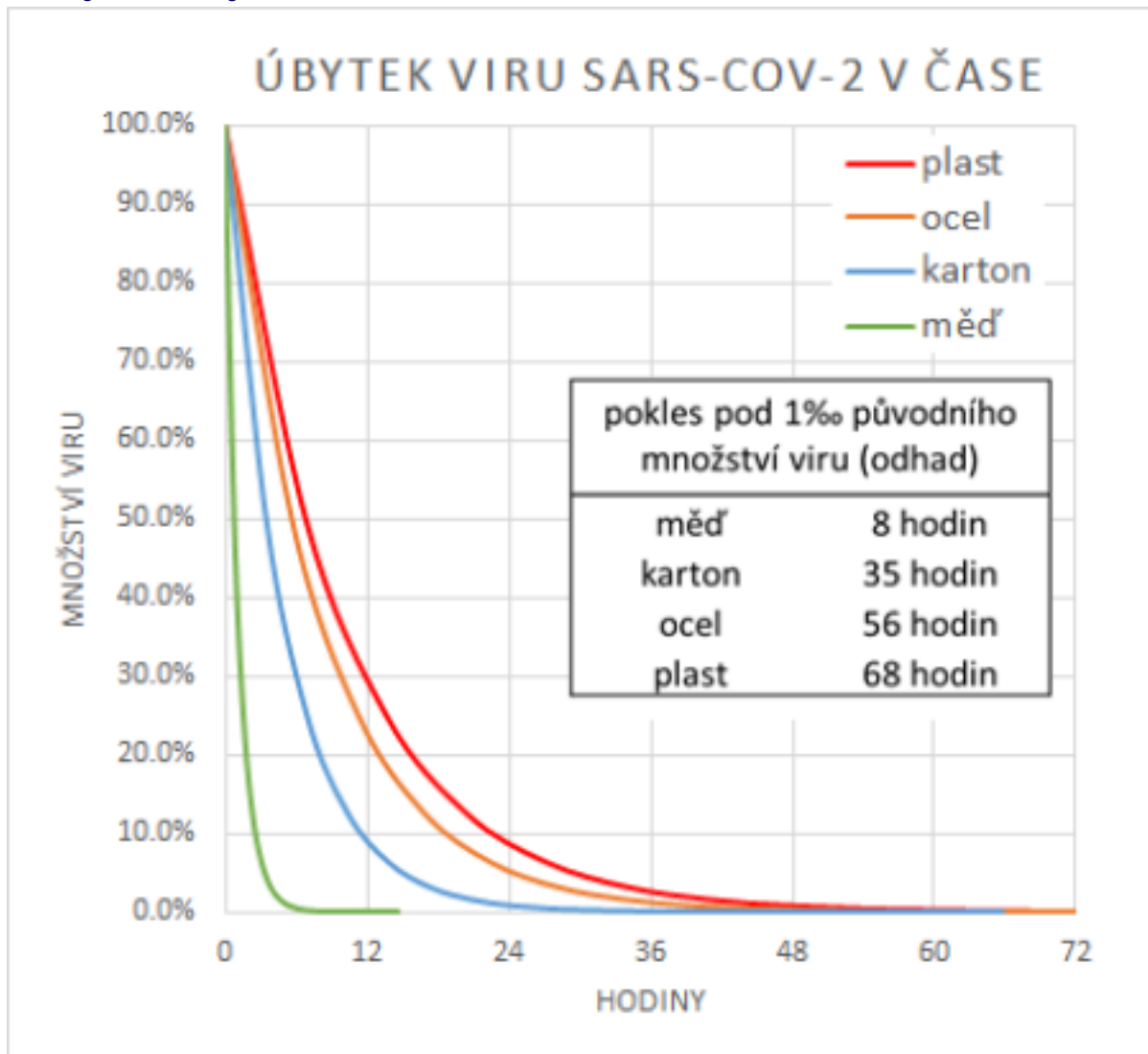


The fact that the virus is still detectable on, say, a piece of cardboard after 24 hours is not particularly reassuring (not least if you have just received a package in the post). But what is important is also the rate of the virus' deterioration. The longer it is on a surface exposed to outside influences, the more it is impacted and compromised and begins to deteriorate exponentially. The viral presence (or load) drops, making it potentially less dangerous.

Scientists involved in a recent study published in [The New England Journal of Medicine](#) looking closely at the coronavirus which causes the deadly Covid-19, found the half-life of the virus on plastics was less than seven hours, less than six hours on stainless steel, three-and-a-half hours on cardboard and 46 minutes on copper (copper enjoys remarkable microbe contact-killing qualities). All of the numbers are estimates but they give an idea how long the virus can survive outside of a living host.

**The graph below** shows clearly the deterioration rate over time with plastics (plast), stainless steel (ocel), cardboard (karton), and copper (měď) falling over different rates over the course of hours (hodiny). Czech experts surmised the

findings at [okoronaviru.cz](http://okoronaviru.cz) and added the following recommendations when it comes to disinfecting surfaces and touching or consuming different items or foods.



- It is important to choose the right type of disinfectant per surface in order to be effective and also not damage the skin on your hands.
- It can be safer and easier in some cases to set a suspect item aside for a “quarantine period” rather than handling it straight away.
- Packaged food and food cooked at high temperatures is safe. It is a good idea to wash fruit and vegetables with running water and a non-perfumed soap.
- The virus is resistant to cold so freezing items won't help.
- Textile masks has to be disinfected by boiling, washing in the washing machine, and ironing. They must not be put in ovens or microwave oven due to the fire hazard.
- The disinfection of single-use professional masks is not recommended as it may damage the material and safety propertie

Last week, concerns were raised in the media that the novel coronavirus could be spread hand-to-hand from cash bills. The European Central Bank issued a press release emphasising there was no scientific proof that touching bills was any more dangerous than any other surface. **Jitka Forstová**, [the head of the Laboratory of Virology at Charles University's Faculty of Science](#), told iForum this:

**The greatest risk of getting coronavirus is when you are in close contact with someone who is already ill, either through aerosol or a contaminated surface. In public, the riskiest are door knobs or handles, and poles in trams and busses, as well as elevator buttons.**

In her view, cash represents a certain risk as well, given the pace at which money changes hands:

**Money can change hands quickly form customer to cashier to the next customer. I would say it is safer to be diligent and to wear gloves, pay by card, and to disinfect shortly afterwards.**

**Václava Adámková, the head physician at [the Institute of Medical Biochemistry and Laboratory Diagnostics of the General University Hospital and of the First Faculty of Medicine of Charles University](#)** , says there is another risk people might not be fully aware of: their mobile phones.

**They are the highest risk, not only for coronavirus but viruses and bacteria in general. The risk of contamination and contracting a virus is high because we bring the phone close to our lips. A good alternative is to use headphones with a mic.**

She stresses that in the time of a virus epidemic it is a good idea to disinfect regularly, including phones which are shared in the office. Appropriate disinfectant wipes can be used.

But the most important of all in combatting the spread of the virus is respecting hygiene rules. To avoid public areas, to use disposable gloves when possible, avoiding touching one's face and - upon returning home and periodically throughout the day - to carefully wash one's hands.

**Translated by Jan Velinger**

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