



How to cope with COVID 19 at home and work

Let's discuss a common sense approach to combat the COVID-19 at home and at work. COVID-19 has only been around for a few months, so at this point scientists don't know as much as they would like but more is being learned every day. We now know, for example, it can live on surfaces for up to nine days and survives in the air for a few hours. We also now know that the virus particles are shed through saliva and fluids coughed up from the lungs. And that the virus can also be shed from our feces. Finally we know that people can contract COVID-19 by touching contaminated surfaces or objects – and then touching their eyes, nose or mouth.

It's easy for an infected person to spread the virus particles through coughing, touching other people or leaving the virus on surfaces. Undoubtedly, hand-washing after being in public spaces is key to reduce the spread of COVID-19. But what should we be doing in our homes, and to the extent you are still working, to eliminate it?

Two recent studies have investigated how long coronaviruses survive on different surfaces. The research looked at a number of different viruses including SARS-CoV-2 – the coronavirus that has caused COVID-19. And it found that the survival times varied according to the type of surface.

The virus survived for longest on stainless steel and plastic – for up to nine days. The shortest survival times of one day was for paper and cardboard.

The number of hours Coronaviruses survive in air and on different surfaces

	SARS-CoV-2	SARS-CoV-1	MERS-CoV-1	HCoV
Air	3	3	-	-
Paper	-	96	-	-
Cardboard	24	8	-	-
Wood	-	96	-	-
Copper	4	8	-	-
Glass	-	96	-	120
Ceramic	-	-	-	120
Plastic	>72	216	48	144
Steel	48	48	48	120

SARS-CoV-2: causing COVID-19

SARS-CoV-1: caused SARS outbreak in 2003

MERS-CoV-1: caused MERS outbreak in 2012

HCoV: other human coronaviruses

-: no data available

Table of time surviving in air and on surfaces. Lena Ciric

The amount of virus particles during this time does reduce, but it's worrying that the particles can last for days rather than hours or minutes on a surface. So, how good are the cleaning products under your sink or in your medicine cabinets at killing SARS-CoV-2? There is some good news in the list below.

Soap and water

Soap and water is your first line of defense – it will not kill the virus, but it will remove it from surfaces. The detergent in soap will lift the virus from surfaces and this will then be rinsed off by water. So, you are removing the virus, but not killing it. Of course you need to wash your hands when you come in from the shops and wash your food as normal.

Bleach

The active ingredient in bleach – sodium hyperchlorite – is very effective at killing the virus. Make sure you leave the bleach to work for 10-15 minutes then give the surface a wipe with a clean cloth. The bleach works by destroying the protein and what's known as the ribonucleic acid (RNA) of the virus – this is the substance that gives the blueprint for making more virus particles when you become infected. Be sure to use the bleach as directed on the bottle.

Rubbing Alcohol

Rubbing alcohol is mostly made up of the alcohol ethanol. Ethanol has been shown to kill coronaviruses in as little as 30 seconds. Like bleach, the alcohol destroys the protein and RNA that the virus is made up of. Moisten a cloth with some neat surgical spirit and rub it over a surface. This will evaporate and you will not need to wipe it off.

Surface wipes

The active ingredient in surface wipes is an antiseptic -- usually benzalkonium chloride. The wipes work by physically removing germs through the pressure you apply when you use them, and the germs then attach to the wipe.

They also leave a layer of the antiseptic on the surface that works to kill germs. Antiseptics work by disrupting the fats in pathogen cells, but SARS-CoV-2 does not contain many fats. So far, there is no evidence that antiseptics can kill human coronaviruses.

Hand sanitizers

A word of warning though about hand sanitizers. The main ingredient in hand sanitizers that will kill SARS-CoV-2 is ethanol, the alcohol in rubbing alcohol. But its concentration in the sanitizer is very important -- it has to be over 70% or it will not kill the virus effectively.

One thing you can also do is make sure you air out the spaces you are spending time in regularly. An infected person will produce thousands of tiny droplets which contain the virus every time they cough. SARS-CoV-2 can survive in the air for up to three hours. So by opening the window, you can remove and disperse the droplets and reduce the amount of virus in the air – which will reduce the risk of infection for others.

We are living in uncertain times but it's reassuring to know that we have some weapons we can use to fight COVID-19 in our homes and at work. The bottom line: keep washing your hands and do it often, use 70% hand sanitizer, dust off the bleach and open a window to let in the spring air.

Disclaimer

New information is being found every day. Parts of this document may be obsolete so always use common sense by visiting the World Health Organization and CDC for the latest updates.

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