

# Review of nanomaterials for antiviral coatings

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Antiviral coatings based on nanomaterials could help reduce the risk of transmission of infectious diseases, according to new work in the *International Journal of Surface Science and Engineering*. The Indian

team has reviewed the field in the context of COVID-19.

We now know the causative agent in the ongoing COVID-19 pandemic, SARS-CoV-2, is most commonly transmitted from one infected person to another through the air from coughs and sneezes and even just talking and breathing. However, a secondary path for transmission involves, fomites, droplets containing viral particles that have impinged on a surface that another person may touch and so pick up the infection.

Manoj Raula and Sucheta Sengupta of Amity University in Noida, India, have reviewed nanomaterials that might be used to coat surfaces that people commonly touch in the [work environment](#), in [public places](#), and even in the home. Nanocoatings have been developed to coat glass and plastic as well as cotton fabrics, for instance.

The team's review covers metal and metal oxide [nanomaterials](#) and how they might be used as antiviral coatings. Examples of nanoparticles being studied include precious [metal](#) nanoparticles, gold, silver, and copper, as well as materials such as perovskites.

While the world of antibacterial coatings has moved rapidly in recent years, it was the advent of COVID-19 that provided an initial motivation for the development of antiviral coatings. Such materials could have wide-ranging efficacy against other viruses, such as [influenza viruses](#) too. Events and circumstances have overtaken our concerns regarding COVID-19 transmission; however, innovation in antiviral coatings will not be wasted given the likelihood of future emerging viruses exploiting fomites as a major route for their transmission.

**More information:** Sucheta Sengupta et al, Recent development of antiviral nano-coatings for COVID 19 management- A Review, *International Journal of Surface Science and Engineering* (2022). [DOI: 10.1504/IJSURFSE.2022.10048827](https://doi.org/10.1504/IJSURFSE.2022.10048827)

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