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PANDEMIC BREATHES LIFE INTO OLD TECH

May 19, 2020 – The coronavirus pandemic has breathed new life into a decades-old technique that can zap viruses and bacteria: ultraviolet light.

Hospitals have been using it for years to cut down on the spread of drug-resistant superbugs and to disinfect surgical suites. But there is now interest in using the technology in spaces like schools, office buildings, and restaurants to help reduce coronavirus transmission once public spaces are open again.

“Germicidal ultraviolet technology has been around for probably 100 years and has had good success,” says Jim Malley, PhD, a professor of civil and environmental engineering at the University of New Hampshire.

“Since early March, there’s been just an enormous amount of interest in it, and research funding to institutions around the world.”

The kind of light that’s used, ultraviolet C (UVC), is one of the three types of rays given off by the sun. It is filtered out by the ozone before it can get to life on Earth, thankfully: Though it can kill germs, it can also cause cancer and destroy our DNA and the corneas of our eyes.

The sanitizing effects of UV lights have been seen with other coronaviruses, including the one that causes severe acute respiratory syndrome (SARS). Studies have shown that it can be used against other coronaviruses. One study found at least 15 minutes of UVC exposure inactivated SARS, making it impossible for the

virus to replicate. New York's Metropolitan Transit Authority announced the use of UV light on subway cars, buses, technology centers, and offices. The National Academy of Sciences says although there is no concrete evidence for UV's effectiveness on the virus that causes COVID-19, it has worked on other similar viruses, so it would likely fight this one too.

Malley's lab is doing research on how well UVC can sanitize devices and protective gear that first responders use, and have recently been forced to reuse, like N95 masks.

Since the interest in UVC spiked, Amazon announced the creation of an ultraviolet robot: a metal frame on wheels equipped with ultraviolet tube lights, meant for use in Amazon warehouses and Whole Foods stores. Other products, like UVC hand wands, are meant for at-home use. There are several portable UV sanitizing devices whose manufacturers claim they kill 99.9% of bacteria and viruses on phones, pacifiers, and other surfaces that can get contaminated.