

Our students and teachers need clean indoor air

By Paul de la Port

In early 2020, schools developed detailed cleaning protocols because, at the time, scientists believed that this was one of the best ways to reduce the potential spread of the coronavirus. Since then, we have learned that the virus is not merely transmitted through large, exhaled droplets that immediately fall to the floor but also through much smaller droplets that permeate the air.

Both World Health Organization (WHO) and the U.S. Centers for Disease Control (CDC) have updated their positions to focus on the threat of airborne transmission.

“The virus can also spread in poorly ventilated and/or crowded indoor settings, where people tend to spend longer periods of time,” WHO said on April 30. “This is because *aerosols remain suspended in the air or travel farther than 1 metre (long-range).*” (See bit.ly/3hkApkT; emphasis added.)

“The largest droplets settle out of the air rapidly, within seconds to minutes,” the CDC said on May 7 “The smallest very fine droplets, and aerosol particles formed when these fine droplets rapidly dry, are small enough that they *can remain suspended in the air for minutes to hours.*” (See <https://bit.ly/3y02Ha3>; emphasis added.)

That means when people walk into a room previously occupied by an infected person, it doesn’t matter whether they are six, 12, or 18 feet apart from each other. Social distancing will not keep us safe when the virus spreads via particles 10,000 times smaller than a human hair that can be suspended in the air for hours and travel up to 30 feet.

So, as schools return to in-person learning this spring and prepare for next fall, there is a new focus on air quality.

One air-quality challenge is that our school buildings were built to be as energy-efficient as possible; they were designed to keep air **INSIDE** as much as possible! And recirculating inadequately filtered or ventilated air does not improve indoor air quality – quite the reverse.

On Feb. 26, 2021, the U.S. Centers for Disease Control updated its ventilation recommendations for schools. (See <https://bit.ly/3vNDi1n>.) The CDC’s recommendations include:

- Bring in as much outdoor air as possible.
- Ensure heating, ventilation, and air conditioning (HVAC) settings are maximizing ventilation.
- Filter and/or clean the air in your school or childcare program.

This has prompted many school administrators how have staff or contractors reevaluate HVAC configurations and settings. Can our



A portable air filtration machine.

❖ Photo courtesy of Omni CleanAir

HVAC system run continuously while a building is occupied? What is the energy cost impact of this and 100% outside air? Can it handle the “beefed-up” filtration required to improve air cleaning? Often, there are tradeoffs in such decisions.

One tried-and-true technology that can enhance indoor air quality without overtaxing one’s HVAC system is the use of portable filtration units. In a March 23 update, the CDC advised: “Consider portable high-efficiency particulate air (HEPA) fan/filtration systems to enhance air cleaning (especially in higher risk areas such as a nurse’s office or areas frequently

inhabited by people with a higher likelihood of having COVID-19 and/or an increased risk of getting COVID-19.” (See <https://bit.ly/3eUI9YW>.)

A professional air cleaning system, whether portable or built-in, will change the air at least six times an hour. In extremely crowded environments, such as cafeterias, more systems may be needed to achieve appropriate air changes per hour. It is important to use professional (not consumer grade) devices.

Air purification machines can run continuously. The physical presence of these units in school buildings can help reassure anyone who enters a building that they are secure. Portable air purifiers say, “We’re doing everything we can to keep you safe.” These machines flank, but don’t replace, all the other common risk-mitigation factors in place today.

If there’s a silver lining to the pandemic, it’s that we’ve gotten a lot smarter about why indoor air safety matters. Cleaning air is the next, common-sense safety habit – like hand washing and wearing seat belts – that our schools urgently need to adopt.

Paul de la Port is president of Omni CleanAir, an air purification company that has been eliminating airborne illnesses in office buildings, schools, hospitals, and nuclear power plants for more than 30 years. More info at www.omnicleanair.com.

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