



# The New Academic Frontier: INDOOR AIR

## Protect|ED

SAFE AND HEALTHY SCHOOLS MADE POSSIBLE

A student's health and wellbeing is directly affected by the conditions of school facilities. Unfortunately, too many students are walking into buildings that fall short of air quality standards. All children deserve to learn in places that are safe and healthy, while also nurturing their intellectual growth, social engagement and emotional well-being.

School district leaders across the country are working together with Protect|ED to clean the air and provide a safe and healthy school environment. The Protect|ED team is comprised of healthcare, education and manufacturing professionals who have come together to support and empower K-12 school communities. As a trusted partner, Protect|ED takes this responsibility seriously and works to support schools that share their commitment to improving the air students, faculty and staff breathe every day.

## Air Quality & Cognitive Function

The importance of air quality goes beyond health benefits. Clean air has been shown to impact cognitive function in students as well. By ensuring students have clean air to breathe, schools can better position students for future academic success.

According to Harvard's T.H. Chan School of Public Health's "Schools for Health" report, contaminated air may hamper learning by compromising brain development, triggering illnesses that impact attendance and disrupting students' attention. In fact, there is a direct correlation with test scores:

- According to a study from the London School of Economics, tracking 2,400 university students who took 11,000 exams at multiple locations over multiple days, poor air quality compromised test results even when pollution levels fell well below EPA standards.
- In a Texas school district, test scores rose after 66 schools were renovated to improve air quality, including removing mold and improving ventilation.

Over the course of a K-12 education, a child will spend more than 15,000 hours at school. Classrooms, cafeterias, libraries and gymnasiums, even when cleaned to high standards, are reservoirs for biological and chemical contaminants.

Children have lungs that are still developing and narrow airways, so it is critically important to ensure the air they breathe is clean. By improving air quality, schools are better able to keep kids learning in the classroom, reducing absenteeism while having a positive impact on academic performance.

## FAST FACTS

An estimated **46%** of U.S. public schools, (about 60,000 school buildings,) **faced air-quality challenges prior to the pandemic.**

— Harvard's T.H. Chan School of Public Health's "Schools for Health" Report

Indoor air is **5-10x** more **contaminated** than outdoor air.

Schools can tap into the federal **Elementary and Secondary School Emergency Relief Fund (ESSER)** on their quest to improve indoor air quality. **ESSER**

Long before COVID-19 emerged, the Environmental Protection Agency **described air quality** in many schools as a **"serious health threat."**

## Air-Disinfection Technology Rooted in Science

The nation's students deserve more than the bare minimum when it comes to clean air access. It's essential to provide a healthy, safe environment that is conducive to learning. Adding HVAC filters is not enough to protect students, faculty and staff.



The portable *WellAir Protect 900W* with *NanoStrike™ Technology* incorporates patented technology that is rooted in science and has been embraced by the medical community for the past decade. The system is used by world-renowned medical institutions such as the Mayo Clinic and Cleveland Clinic. It also is used by major brands such as the NBA, PGA and NFL, Google, Microsoft, Hilton and Marriott.



### Multiple Inactivation Processes in One Powerful Strike

Developed by a team of scientists and engineers, the portable *NanoStrike™* utilizes multiple concurrent processes that rapidly kill and deactivate harmful airborne microorganisms. This process is powerful yet gentle for 24/7 use around the most vulnerable of people.



### Inactivates at a DNA Level

*NanoStrike™* destroys the DNA and protein that make up nanosized viruses, bacteria and fungi. This stops viruses from spreading and bacterial and fungal spores from reproducing. Unlike single process air deactivation technologies, there is no opportunity for Antimicrobial Resistance (AMR) to develop over time.



### Destroys Airborne Pathogens

Unique to *NanoStrike™* is its ability to burst a pathogen cell; other technologies simply deactivate them.

*NanoStrike™* concurrently attacks the cell membrane, DNA and protein, causing osmotic pressure which can quickly burst a cell. Once the cell bursts, there is no way for it to self-heal, ensuring it does not become viable as an infectious agent once again.

### First line of protection against viruses and bacteria

*NanoStrike™* is an inactivation technology that does not simply trap pathogens, it eliminates them, disinfecting the air. MERV filters and other HVAC filters only trap micro-organisms. They do not destroy hazardous air particles.

## Protect Against COVID-19 & More

The U.S. K-12 education system has been plagued with poor air quality for decades and the rise of COVID-19 has only compounded the issue. While the pandemic may wane, the need for better air quality in our schools remains. From highly contagious germs to dangerous mold spores, schools have a responsibility to address these pervasive health issues and protect the wellbeing of students and teachers.

Over 60 clinical and lab studies show that Protect|ED's *NanoStrike™* units kill airborne micro-organisms up to 99.99 percent, providing the first line of protection against viruses and bacteria such as COVID-19, influenza, strep and more.

Scientists are predicting that COVID-19 will never fully disappear and that it will become an ongoing virus that continues to evolve. The scientific community is urging schools to provide safer indoor environments to protect students and keep new variants from emerging.

In addition, mold, dust, soot, pollen and chemical contaminants are known to exacerbate asthma and allergies, which is a significant issue for many school-aged children. In fact, one in 13 school-aged children suffer from asthma. Before COVID-19, asthma alone accounted for 13.8 million missed school days annually. Unless schools rectify their air-quality issues, students with asthma and allergies will see their symptoms worsened simply by being at school.







## Hays Consolidated Independent School District

In late December 2021, Hays Consolidated Independent School District in Texas installed more than 1,800 *NanoStrike™* units. These units are now placed in every classroom in the district, as well as nurses' offices, reception areas, extracurricular rooms, gyms, cafeterias and libraries to help reduce airborne contaminants.

Tobias and Fuentes Elementary Schools, as well as Dahlstrom Middle School, were among the campuses in the district most affected by the COVID-19 pandemic. Installations began at Tobias Elementary, which was a high priority for the district. In September 2021, more than 10 percent of the campus tested positive for the coronavirus, triggering a full campus closure.

Hays CISD was the first district in the area to take a closer look at its indoor air quality.

*"The pandemic sort of was that catalyst to really get people thinking about indoor air quality a little harder. Our district aims to be proactive as we think of creative solutions to keep kids and staff safe and in the classroom."*

— Max Cleaver  
Hays CISD's Chief Operations Officer

The investment was approved by a 6-0 vote by the Hays CISD school board with funding coming from federal Elementary and Secondary School Emergency Relief (ESSER). The actions taking by the school board

go far beyond the pandemic and will support indoor air quality for years to come.

Since the installation of the units, the school has seen a significant difference in the quality of the air.

"We could tell a major difference, especially with the scent of the air, after day one," said Tim Savoy, Chief Communications Officer for Hays CISD. "We put the unit to the test in a building that was built in the late 1800s, and the *NanoStrike™* removed that musty scent within hours."



# The Time Is Now

With a deep knowledge of air quality technology and the K-12 landscape, combined with expertise from respected health experts, Protect|ED helps school districts to take a more deliberate approach in improving the quality of the air. Protect|ED serves as an extension of a school's operations team, helping leaders navigate concerns to ensure students are learning in a safe, healthy environment that supports their academic success.

Here are a few of the *NanoStrike*™ features that are particularly appealing for school districts:

- The unit is slim, lightweight (10 lbs.) and can be easily mounted on a wall. It's portable, requiring no installation costs.
- The *NanoStrike*™ unit requires no maintenance and consumes less energy than a standard household lightbulb. There are no filters or bulbs to replace.
- While it comes with a seven-year warranty, its effectiveness does not degrade over time.
- It is also extremely quiet and will not disrupt the learning environment.



The federal government has approved \$176 million in emergency COVID relief funds for K-12 schools. This new funding is intended to help states and school districts safely reopen schools, effectively address significant learning loss, and take other actions to mitigate the impact of COVID-19 on the students and families who depend on our K-12 schools. With Air Quality improvements as an allowable expense, this is the ideal time for schools to intervene and protect the health of students.

To contact us or learn more visit [cleanairinschools.com](https://cleanairinschools.com).

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