M A D +

Masks | **Air** | **Distance** | Vaccine Access, Whistleblower Support, Health Care & Benefits

POLICY GUIDE

COVID Straight Talk Lab, a Last Mile project

New York Committee for Occupational Safety and Health (NYCOSH)

Know your air. **Know your risks.** **Know your rights.**

About the Authors

LAST MILE

CovidStraightTalk.org

[COVID Straight Talk Lab](#) (covidstraighttalk.org) is a bilingual public health campaign and a project of [Last Mile](#) (lastmile.works). Its mission is to accelerate worker-led policy change as well as provide accessible public health information for labor unions and worker centers to use in workplace organizing for COVID safety. COVID Straight Talk Lab works in coalition with scientists, labor unions, worker centers, and communication specialists to pass national and state indoor air-ventilation policy—designed to keep the most at-risk frontline workers safe from contracting COVID-19. The website, in both [Spanish](#) (hablandoclarocovid.org) and [English](#), features urgently needed, life-saving tips and toolkits on indoor air ventilation to reduce the risk of contracting COVID-19 in the workplace.

NYCOSH

[The New York Committee for Occupational Safety and Health (NYCOSH)](#) (nycosh.org) is a membership organization of workers, unions, community-based organizations, workers' rights activists, and health and safety professionals. NYCOSH uses training, education, and advocacy to improve health and safety conditions in our workplaces, our communities, and our environment. Founded 40 years ago on the principle that workplace injuries, illnesses, and deaths are preventable, NYCOSH works to extend and defend every person's right to a safe and healthy workplace.

Table of Contents

MAD+
Introduction

What is the M.A.D+ policy guide?

The M.A.D.+ policy guide is intended to help essential workers and their communities advocate for workplace safety at the local and national levels. Co-created the **New York Committee for Occupational Safety and Health (NYCOSH)** and **Last Mile's COVID Straight Talk Lab**, it outlines standards for masking, air quality, distancing, and worker rights. We urge unions and worker centers to use this resource during contract negotiations for their worksites, as well as part of legislative campaigns. The M.A.D.+ policy guide came out of a collaborative effort between scientists and worker organizations and includes actionable steps and model language for workers to use in COVID safety proposals.

How the M.A.D.+ policy guide was created?

During the summer of 2020, COVID Straight Talk Lab collaborated with expert researchers, scientists, designers, facilitators, educators, and community organizers to create a public health campaign around the airborne nature of COVID-19. We worked closely with ventilation scientists to develop initial safety guidelines and messaging. The collaboration resulted in a simple call-to-action: "Get M.A.D. and Stay Safe."

Based on the acronym M.A.D.—which stands for masks (M), keeping indoor air fresh (A), and maintaining physical distance (D)— it became the foundation of the resources and guides we've created with and for essential workers and their communities. In the summer of 2021, we added the “plus” to M.A.D. to recognize that COVID-19 safety is impossible without workers having power in their workplaces. Workers must have a seat at the table when deciding how to reduce the risk of contraction. As they do this important health and safety work, they need protections from retaliation. This pandemic has also highlighted how reliant our country is on the labor of workers, and it’s vital that we ensure that everyone is not only safe at work but also has access to healthcare, a clean environment, and a pathway to citizenship.

Why we made M.A.D.+?

Despite being almost two years into the pandemic, with over 822,610 deaths documented in the US alone according to Worldometer, the measures needed to prevent further death and illness are still not being taken. With people returning to indoor environments for work and school, more people will be spending extended time in close proximity with others and in places with poor ventilation. Enclosed, poorly ventilated spaces are hotbeds for community spread of the virus. If not well ventilated, indoor settings—including industrial, institutional, and multi-occupancy home environments—could potentially contribute to overwhelming spikes in COVID-19 cases and deaths.
The problem is formidable. The danger is clear and present. Not taking immediate and decisive actions now puts both lives and livelihoods at risk. All of our work is hyper-focused on supporting essential workers—in particular Black, Latinx, and Indigenous people—who are already paying the price for being "essential" during the COVID-19 pandemic.

What we do moving forward will be paramount in decreasing the number of people who become infected with COVID-19. That is why we've devoted our time to bringing the M.A.D.+ policy guide to life—because we believe that investing in worker-driven public health education and advocacy will reduce the risk people face on the job and save lives.

How to use this guide

This guide is intended to serve as a tool for labor unions and worker centers in negotiations and legislative advocacy. The guide is broken up into four main sections:

1. **General worker protections**
2. **Masking**
3. **Air quality**
4. **Distancing**

For each of these sections, we will walk you through the general principles of COVID safety (seen in big yellow boxes) and specific demands we recommend you push forward (seen in bullet points under the yellow boxes).

We highly recommend that you turn to experts for further support in implementing the principles of COVID safety you will find in this guide.

The best ways to receive follow-up support include seeking out:

1) **Industrial hygienists:** An industrial hygienist can do site visits to provide you with general information about how to make your workplace more COVID safe and to recommend further expert support. Industrial hygienists who specialize in industrial air ventilation can give more detailed support when developing an air ventilation plan.
2) **Ventilation engineers:** A ventilation engineer can make specific recommendations about how to optimize mechanical air ventilation in your setting.

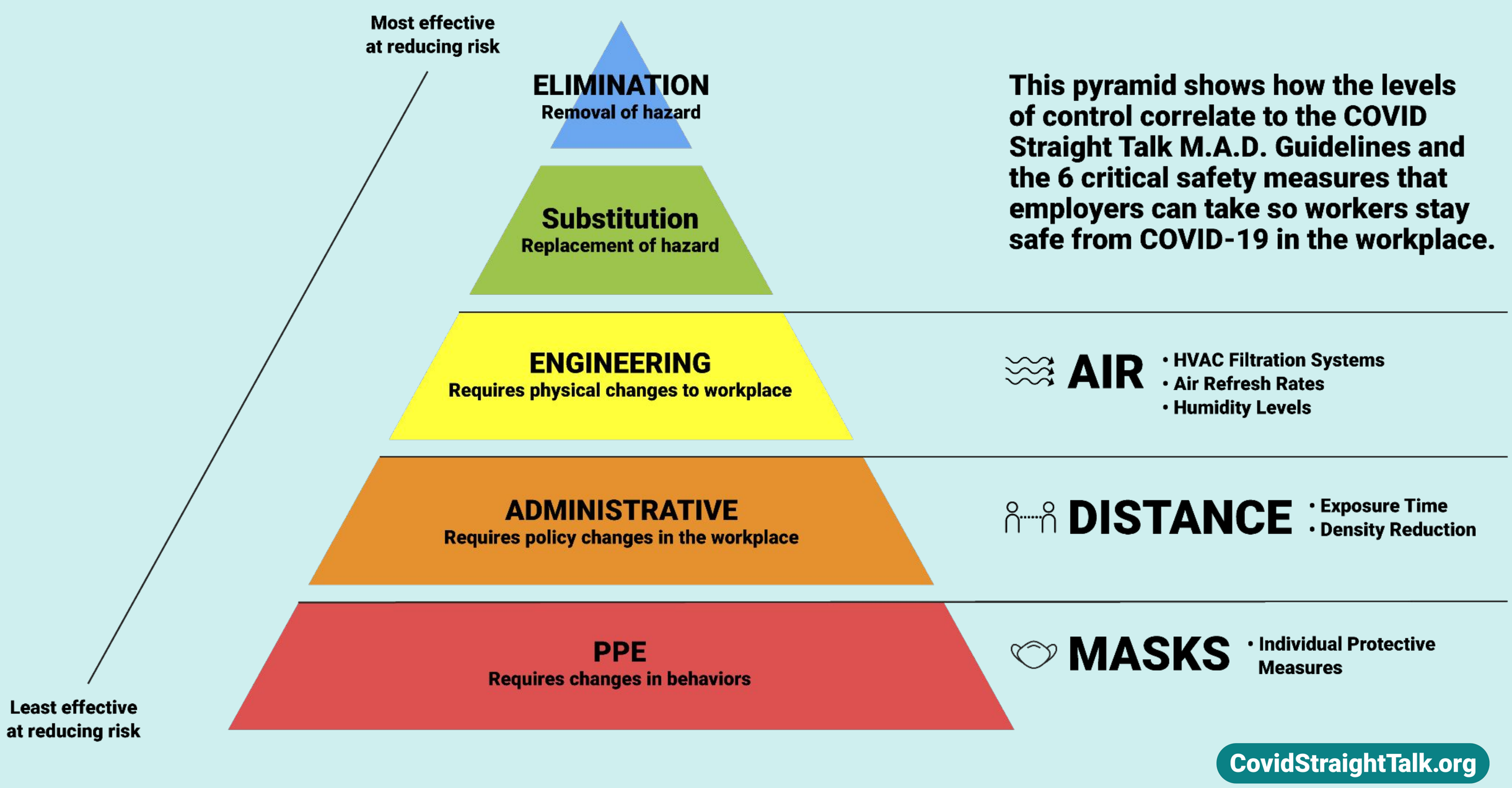
To find an industrial hygienist in your state who may be able to make free site visits, you can reach out to the National Council for Occupational Safety and Health (NCOSH). NCOSH and its affiliate network are the longest-standing health and safety labor organizations in the country. They connect worker centers and labor unions with public health experts. You can find contact information for your local occupational safety and health organization here: **https://nationalcosh.org/COSHGroupsList.**

We also recommend that you use this guide in combination with training worker leaders. Workers having a seat at the table and playing an active role in keeping their workplaces COVID safe is essential for any long-lasting, comprehensive solution.

Worker Protections

General Standards

This section is for labor unions, worker centers, and other essential worker advocates to use as a template for federal and state legislation and in contract negotiations over COVID-19 safety. This section focuses on workers having a seat at the table, vaccine access, whistleblower protections and the right to refuse work.



Source: Adapted from the CDC and NIOSH

The Hierarchy of Controls is a framework you can use to push your employer to use the most effective methods of protecting you from a workplace hazard. When we talk about controls in the context of hazard exposure, we really mean *prevention* of exposure, so the hierarchy of controls is really the hierarchy of exposure prevention methods. By organizing our options in a hierarchy, we are able to see which potential solution will be more versus less effective. It should be noted that safety is rarely a one-and-done deal, and more often than not, we need to use a combination of solutions and strategies to achieve the result we seek.

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Workers Having a Seat at the Table

Creation of a COVID-19 prevention program with workers at the table

Each workplace should develop a COVID-19 prevention program with workers at the table. Workers must be actively involved in developing and implementing a plan that includes codifying employer obligations related to physical distancing, ventilation and filtration, and sanitation requirements, including the provision of handwashing facilities, among other measures. Protocols should also include limiting the number of workers in shared transportation and housing—and, if necessary, providing space to quarantine outside of shared housing if someone becomes infected with COVID-19. Workers should be provided with the plan and receive training in its policies and procedures in a language they understand.

Sample demands for worker health and safety committees from the NewsGuild

Health and safety committees shall be:

- Composed of at least two-thirds non-supervisory employees selected by the union.
- Mandatory monthly meetings (more often as needed). One full work day per month to prepare for meetings.
- Committee members will receive 35 hours of training annually during company time, presented by trainers selected by the union and paid for by the company.
- The committee will have a clear mandate to monitor conditions, identify problems, come up with solutions, and oversee their implementation (DeCarava and Brooks 2021).

Training and education on COVID prevention and other hazards for workers

Employers should provide regular and refresher trainings on safety and prevention protocols and policies, including the use of personal protective equipment. Trainings should be conducted in the language workers understand. And trainings should be done on company time, with employees paid at their regular compensation rate.

Multilingual best practices training materials on mask fit, hygiene, and safety measures

Employers should make safety information available in multiple languages.

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Vaccine Access

Employers should support workers in accessing vaccines.

Uncontested scheduling changes for vaccine appointments

Employers should allow for any worker who chooses to be vaccinated to do so while on the clock and be paid for the time spent at the vaccination appointment. Employers should allow employees to make changes to their work schedule to accommodate vaccination appointments—without retaliation. And employers should allow for multiple scheduling attempts if workers are mistakenly sent away due to lack of documentation or other confusion at the vaccination site.

Time off should be given for days following vaccination

Employers should allow any worker asking for time off work after their vaccination appointments to do so with uncontested scheduling changes, so that workers can recover from any side effects. This time should be in addition to any sick or paid time off that the employer already allows.

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Whistleblower Protections

Protecting the freedom to share all information about COVID safety with other workers, government bodies, and the press by preventing retaliation and easing the process of reporting safety violations.

Codify anti-retaliation measures

These measures should expressly prohibit employers from retaliating against workers for reporting infection control problems to their employer or any government entity. Any staff member should be able to speak to any member of the public, press, or governmental bodies about any issues COVID-19 related regardless of pre-existing confidentiality, non-disclosure agreements, code of conducts, or any form of gag order.

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Sample legislative Language from the NY HEROs ACT on anti-retaliation measures

No employer, or his or her agent, or person, acting as or on behalf of a hiring entity, or the officer or agent of any entity, business, corporation, partnership, or limited liability company, shall discriminate, threaten, retaliate against, or take adverse action against any employee for:

I. Exercising their rights under this section or under the applicable airborne infectious disease exposure prevention plan;

II. Reporting violations of Section 218-b of the Labor Law, or a plan adopted under this section to any state, local, or federal government entity, public officer or elected official;

a. For the purposes of this paragraph an employee shall be deemed to have reported a violation if they reasonably believe, in good faith, that a violation has occurred.

III. Reporting an airborne infectious disease exposure concern to, or seeking assistance or intervention with respect to airborne infectious disease exposure concerns, to their employer, state, local, or federal government entity, public officer or elected official; or

IV. Refusing to work where such employee reasonably believes, in good faith, that such work exposes him or her, or other workers or the public, to an unreasonable risk of exposure to an airborne infectious disease due to the existence of working conditions that are inconsistent with laws, rules, policies, orders of any governmental entity, including but not limited to, the minimum standards provided by the model airborne infectious disease exposure prevention standard, provided that the employee, another employee, or employee representative notified the employer, of the inconsistent working conditions and the employer failed to cure the conditions or the employer had or should have had reason to know about the inconsistent working conditions and maintained the inconsistent working conditions.

a. Notification of a violation by an employee may be made verbally or in writing, and without limitation to format including electronic communications.

b. To the extent that records exist between the employer and employee regarding a potential risk of exposure, without limitation to format including electronic communications, they shall be maintained by the employer for two years after the conclusion of the designation of a high risk disease from the Commissioner of Health.

Worker Protections

Know Your Rights

Below are a set of existing laws and regulations that establish your right to organize for health and safety in the workplace.

Visit OSHA's page about the Right to Refuse for more information.

KNOW YOUR RIGHTS

The General Duty Clause, Section

5(a)(1) of the Occupational Safety and Health (OSH) Act of 1970, 29 USC 654(a)(1), requires employers to furnish to each worker "employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm."

From MassCOSH's COVID-19 Safety Toolkit for Workers:

Right to Report and Right to Refuse Dangerous Work:

You have a right to report if your workplace is unsafe during the COVID-19 pandemic (and always). You also have the right to refuse dangerous work that puts you at risk of death or serious physical harm. However, it should be noted that availing yourself of this right tends to work best when you are organized (unionized) and doing so as a collective. Individual use may lead to retaliation from the employer.

In order to be legally refuse to do dangerous work, the following things must be true:

- Where possible, you have asked the employer to eliminate the danger, and the employer failed to do so; and
- You refused to work in "good faith." This means that you must genuinely believe that an imminent danger exists; and
- A reasonable person would agree that there is a real danger of death or serious injury; and
- There isn't enough time, due to the urgency of the hazard, to get it corrected through regular enforcement channels, such as requesting an OSHA inspection.

If all of these things are true, then you should:

- First ask your employer to correct the hazard, or to assign other work;
- Tell your employer that you won't perform the work unless and until the hazard is corrected; and
- Remain at the worksite until ordered to leave by your employer.

An employer cannot take an adverse action against employees for engaging in activities protected by OSHA's whistleblower law, such as firing or laying off, demoting, denying overtime or promotion, threatening deportation or calling ICE, or reducing pay or hours. **You have the right to file a whistleblower complaint with OSHA if you believe your employer retaliated against you for exercising your rights to a healthy and safe workplace** under the whistleblower protection law enforced by OSHA. Whistleblower complaints must be filed within 30 days of the most recent act of retaliation (MassCOSH Health and Tech Committee, n.d.).

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The National Labor Relations Act (NLRA)

From Protecting Workers Who Exercise Rights:

The National Labor Relations Act (NLRA) protects you when you take action with other co-workers. Some examples of protected activities: you can work together with your co-workers to protest too many overtime hours, ask for a pay raise, or talk about safety problems at work. To be protected by this law, you have to make it clear to your employer that you are acting on behalf of a group of your co-workers, not just yourself. Otherwise, you might be fired. You are protected under the NLRA regardless of your immigration status (whether or not you have papers).

Be careful! — use your common sense…. Be careful and talk only with co-workers that you trust. We recommend getting help if you want to organize a union in your workplace. A union will give you the strongest protection against retaliation for taking action to improve your working conditions (Protecting Workers Who Exercise Rights, n.d.).

Masking

Workplace Standards

This section is for labor unions, worker centers, and other essential worker advocates to use as a template for federal and state legislation and in contract negotiations over COVID-19 safety. This section covers personal protective equipment.

Universal Indoor Masking

All staff, customers, or visitors in indoor shared air spaces must be masked at all times.

Free, adequate, and accessible PPE

Employers should provide staff with the appropriate personal protective equipment (PPE) for the jobs they perform and the environment they work in.

Unmasked visitors to be offered high filtration face coverings

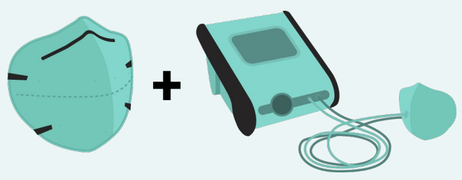
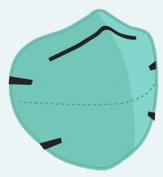
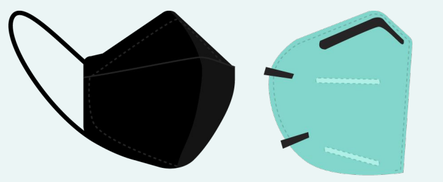
Face masks containing one layer of meltblown fabric (such as a disposable surgical mask) should be made available to all customers and visitors upon entry.

No unmasked visitors or customers in indoor shared air spaces

Visitors refusing to mask should leave the indoor shared air space immediately.

De-escalation & Reporting Training for supervisory staff

Supervisory staff and those involved with staff and visitor compliance should be trained in conflict de-escalation and non-compliance reporting standards.

	Type of Covering	Effective Filtration Efficiency
	Fit Test NIOSH N95 Respirator	>95%
	NIOSH N95 Respirator	>95%
	International Respirators (e.g. KN95, KF94)	>94%
	Workplace Performance Plus*	>90%
	Loose Medical Mask	37%-44%
	Three Layer Cloth Mask	~23%
	Two Layer Cloth Mask	~29%
	Gaiters/ silk masks/ mesh	Not recommended

CovidStraightTalk.org

Source: Image adapted from Insider.com, n.d.

Data source: SciDirect 2021 and CDC 2021

List of WP+ masks can be found here:
wwwn.cdc.gov/PPEInfo/RG/FaceCoverings

Masking

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Appropriate Outdoor Masking

Mask-wearing in close-contact or near-contact outdoor situations.

Staff should be masked when within 2 meters outdoors

Staff working within 6 feet (2 meters) of each other, or who will be within 6 feet (2 meters) of others, should be masked when working outdoors.

KNOW YOUR RIGHTS

- **OSHA's Personal Protective Equipment (PPE)** standards(in general industry, 29 CFR 1910 Subpart I) require using gloves, eye and face protection, and respiratory protection where needed. Click here to read the full text of the standards.
- **When respirators are necessary** to protect workers or where employers require respirator use, employers must implement a comprehensive respiratory protection program in accordance with the Respiratory Protection standard (29 CFR 1910.134).

Provision of respirator or filtration masks to staff working with the public

- Employers are required to provide medical evaluation and fit testing for PPE in compliance with 29 CFR 1910.134 Respiratory Protection Standard

https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.134

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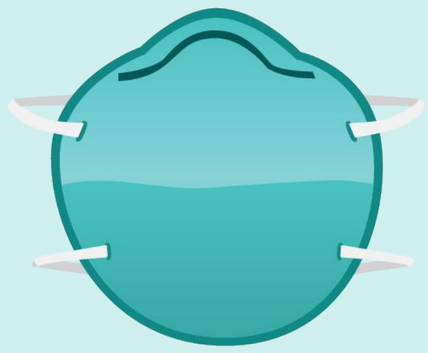
Habitual Masking in Mixed-Use Spaces

Staff should be habitually masked in all indoor shared spaces, including mixed-use spaces like breakrooms, shared bathrooms, shared hallways, shared offices, meeting rooms, and storage spaces.

Masking in mixed-use spaces

Masking should be required in indoor spaces in which multiple people spend time, particularly when the room is a mixed-use space (for example, a storeroom also serving as a breakroom or a management office that is in a shared-air space with the storeroom, etc.).



Air Quality

Workplace Standards

This section is for labor unions, worker centers, and other essential worker advocates to use as a template for federal and state legislation and in contract negotiations over COVID-19 safety. This section covers air ventilation and filtration.

Air quality is one of the most important factors in establishing a safe indoor workspace and preventing the spread of COVID-19. Unfortunately, it's also been one of the most overlooked. Masking and distancing are important, but are not enough on their own to lower the risk of infection: air quality is key.

Below are guidelines for safer air—but first, **a reminder that your workplace may be able to get a free visit from an expert, such as an industrial hygienist, who can inspect the worksite and give recommendations, as well as help you understand these guidelines**. You can find contact information for your local occupational safety and health organization here, which connects worker centers and labor unions with public health experts: **https://nationalcosh.org/COSHGroupsList**

The basic principle of air safety falls into two categories: ventilation and filtration. For each of those two things there is an ideal benchmark employers should meet in order to reduce the risk of infection. This section will discuss these benchmarks. Here are some important terms:

- **Droplets:** Droplets are particles that are larger than 300 micrometers; due to their weight, they often fall to the ground within seconds or minutes. We often think of droplets as only being expelled when someone is coughing or sneezing, but they are often also expelled during normal conversation, or even breathing. In the context of viral transmission, a droplet would look like small viral particles bound within a drop of fluid. It is important to understand that in low humidity and high temperature environments, the fluid surrounding a droplet can and will evaporate, and the droplet may be reduced enough in size to become (and behave) like an aerosol.

- **Aerosols:** An aerosol is a respiratory droplet that is smaller than 100 micrometers in diameter; unlike droplets, aerosols are small and light enough to remain suspended in the air for hours, and float throughout a room on air currents. Due to this, aerosol concentration can build up in an enclosed space, which is likely to increase the risk of transmission. Dry, small aerosol particles can go through cloth filters.

- **Ventilation**: Ventilation, in general, is a way to control an indoor environment using the flow of air. When people talk about bringing fresh air into a room or taking stale air out of a room, they're talking about ventilation. There are several different types of ventilation, including mechanical ventilation, as described below.

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- **Mechanical ventilation:** Mechanical ventilation refers to *permanent* ventilation systems installed in an indoor space. Many offices and stores, for instance, have mechanical ventilation in the form of HVAC systems (HVAC stands for heating, ventilation, and air conditioning). These systems often include air vents you can see as well as air ducts in the walls, and vary in what they've been set up to do. On the other hand, workspaces such as factories tend to have mechanical ventilation systems that meet industrial standards to filter toxins from the air. Mechanical ventilation systems are typically balanced with windows and doors closed, so it is crucial to understand that when windows are opened with the idea of increasing the ventilation in an area with a functioning mechanical ventilation system, that actually has the opposite effect, because the open windows will disrupt the balance of the mechanical system, and may very well worsen the ventilation.

- **Natural ventilation:** Natural ventilation is the use of open windows and doors to bring in fresh air and remove stale air from a room. It should be noted that natural ventilation is *not* as reliable or as precise as mechanical ventilation, because it is dependent on external forces outside of our control (e.g., precipitation, wind speed, etc.).

- **Filtration:** Filtration is the use of a porous material, such as a paper filter, to remove particles that are suspended in the air. This can include the filtration of dust, mold, bacteria, or viral particles. Only certain types of filters and filtration can remove the viral particles that cause COVID-19.

- **Air change:** Air change has to do with both ventilation and filtration. It refers to the volume of air in the room being fully replaced with outdoor air and/or recirculated air that has already been properly filtered. To prevent the spread of COVID-19, an indoor space needs at least six air changes per hour.

- **Portable filtration device:** A portable filtration device is a relatively small, movable unit that pulls air in and filters it.

Air ventilation and filtration are so important because of "airborne" transmission. During "airborne" transmission, a person can inhale and become infected with aerosols from a contagious individual that can travel anywhere, even further than six feet, in an enclosed space.

The best thing an employer can do is to have a mechanical ventilation system that reaches certain benchmarks for bringing in outdoor air and for filtering the viral particles out of the air.

If a worksite doesn't have a mechanical ventilation system, employers should get one installed. If despite worker demands an employer either refuses to have one installed or agrees to install one but the change will not be able to happen immediately, employers should use strategically placed portable filters and open windows and doors. However, they should have an expert visit the worksite to set up the portable filters in a way that will make a difference in safety.

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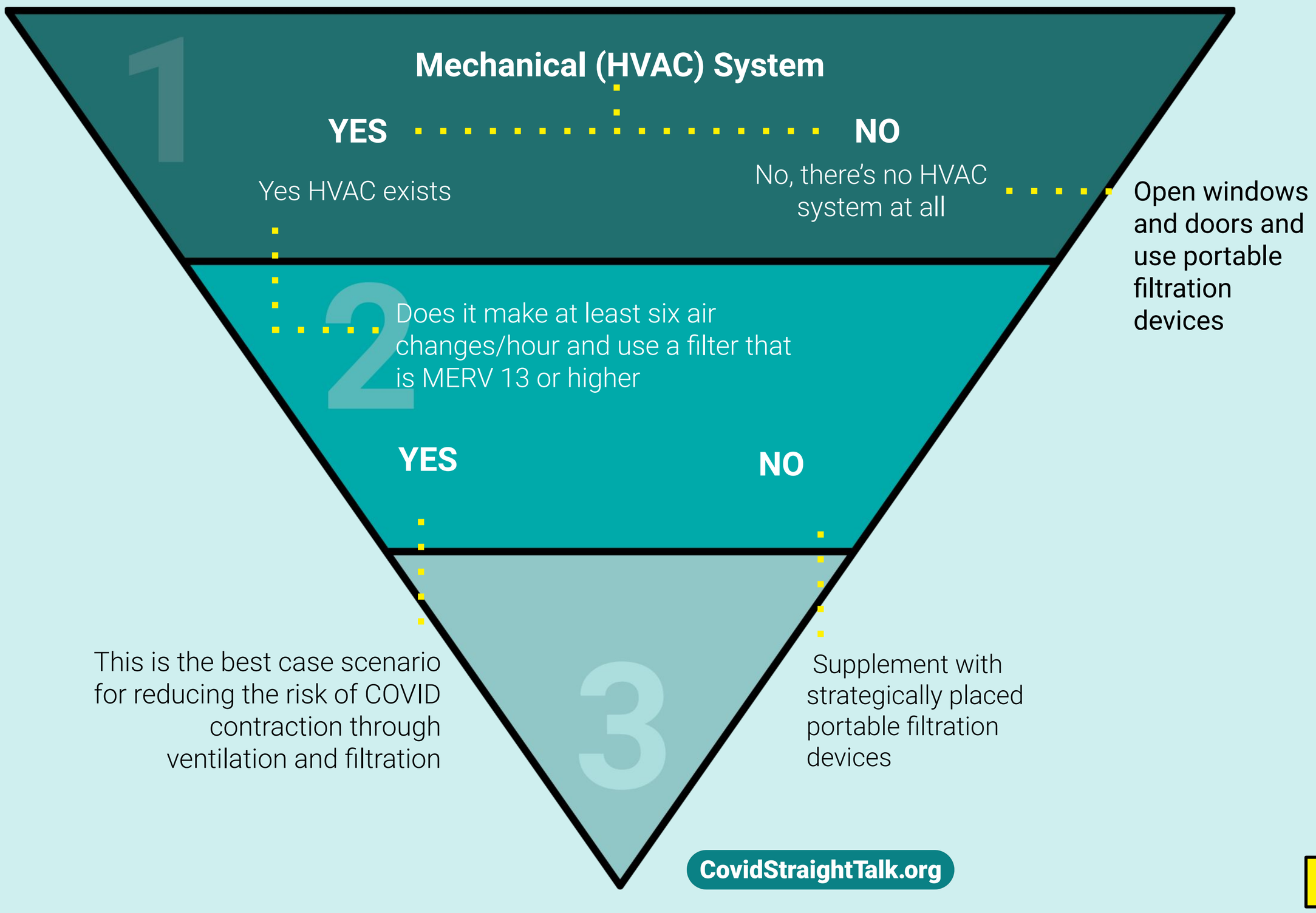
Use Mechanical Ventilation and Filtration

Mechanical ventilation and filtration is one of the most important interventions to reduce the risk of contracting COVID-19 at work, yet is often overlooked. Out of all the ways to ventilate and filter air, mechanical ventilation that meets the standards outlined below is the best way to reduce the risk of contracting COVID-19. Mechanical ventilation, such as heating, ventilation, and air conditioning (HVAC) systems equipped with MERV-13 filters or better, remove viral particles from the air. They do this in two ways. As long as they have the right type of filter (see below for details), these systems filter indoor air when people breathe out, cough, and sneeze. And, HVAC systems also dilute the viral concentration in indoor air by bringing in fresh air from the outdoors. Employers should use HVAC systems *along with* masking, occupancy, and distancing guidelines for indoor shared workspaces.



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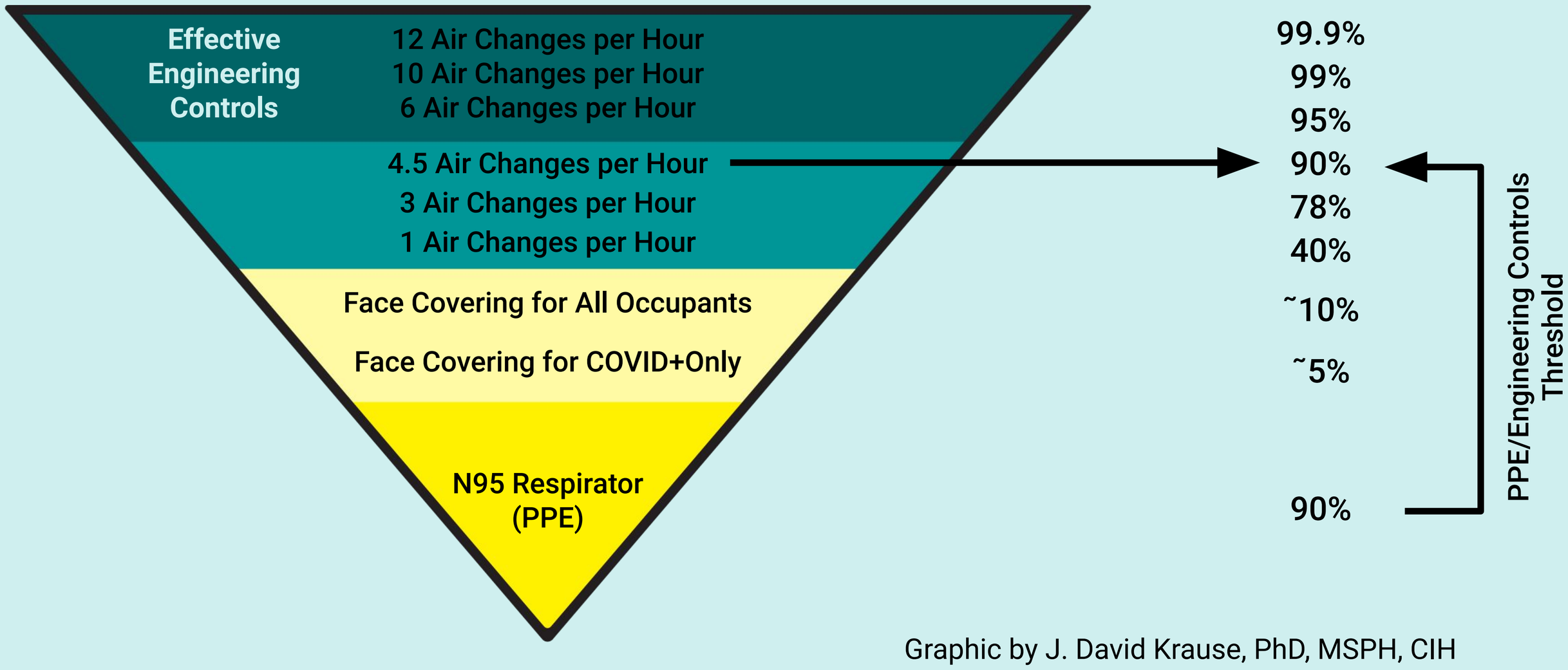
Use Mechanical Ventilation and Filtration

Ensure there are a minimum of six air changes per hour

The term air change per hour refers to the number of times in an hour all of the air in a room is replaced with completely fresh air. An HVAC system that helps prevent the spread of COVID-19 should have a minimum of six air changes per hour, which corresponds to a 95% relative risk reduction.



Graphic by J. David Krause, PhD, MSPH, CIH

CovidStraightTalk.org

Air Quality

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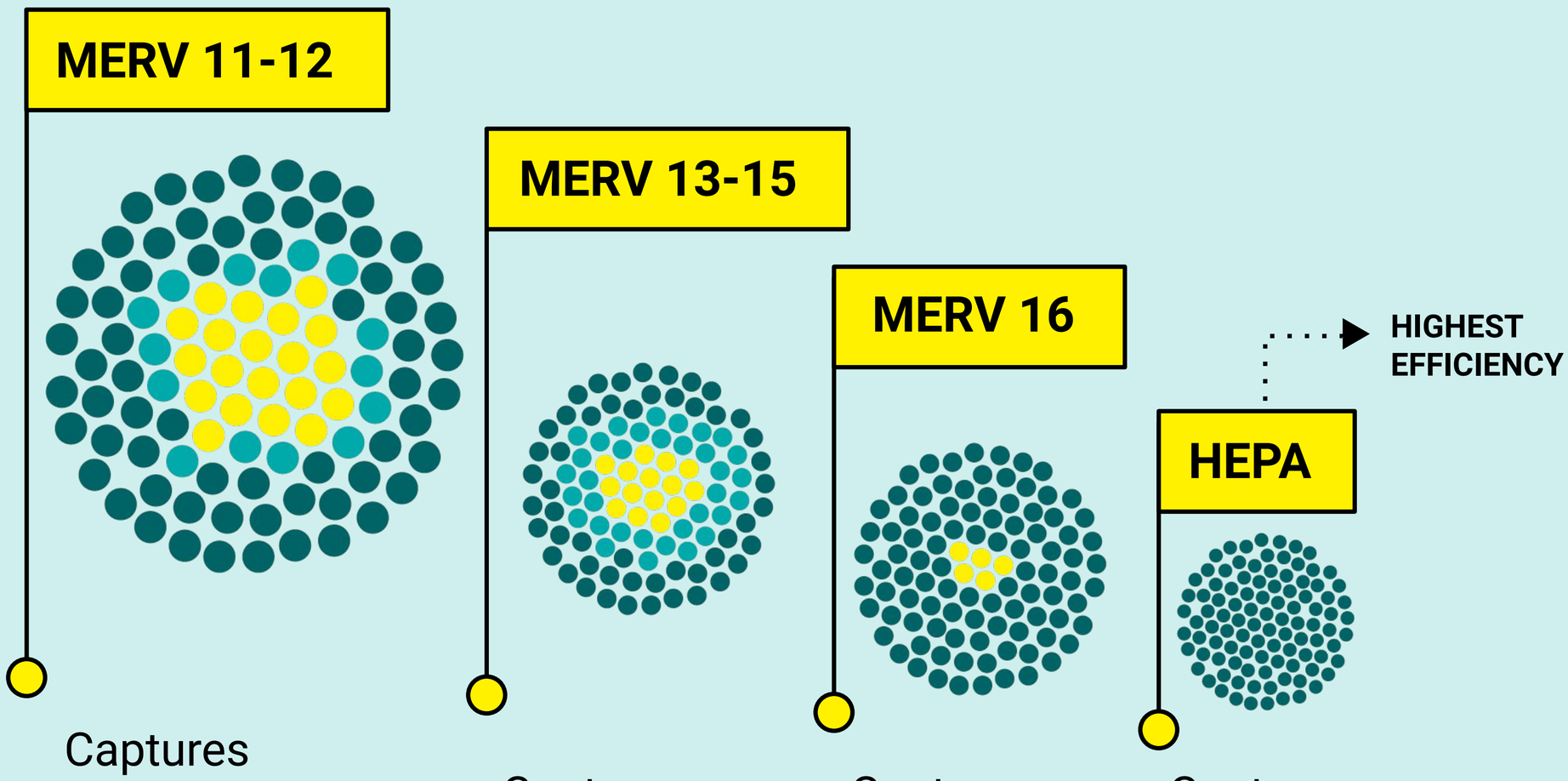
Use Mechanical Ventilation and Filtration

Use a MERV-13 filter or better

Your employer should install, upgrade, or renovate air filtration systems to MERV 13 or better filtration standards. MERV-13 and above filters remove viral particles from the air. Whereas proper ventilation brings in fresh outdoor air, proper filtration is essential for filtering contaminated indoor air. And only certain filters are capable of filtering particles that are as small as SARS-CoV-2, the virus that causes COVID-19.



The above ratings are air filter standards for the US. MERV 16 is equivalent to an N95 mask

*Human hair thickness=75microns | Covid virus = 0.2microns
[HEPA: High-Efficiency Particulate Air; MERV: Minimum Efficiency Reporting Value]

Source: Times of India 2020

Air Quality

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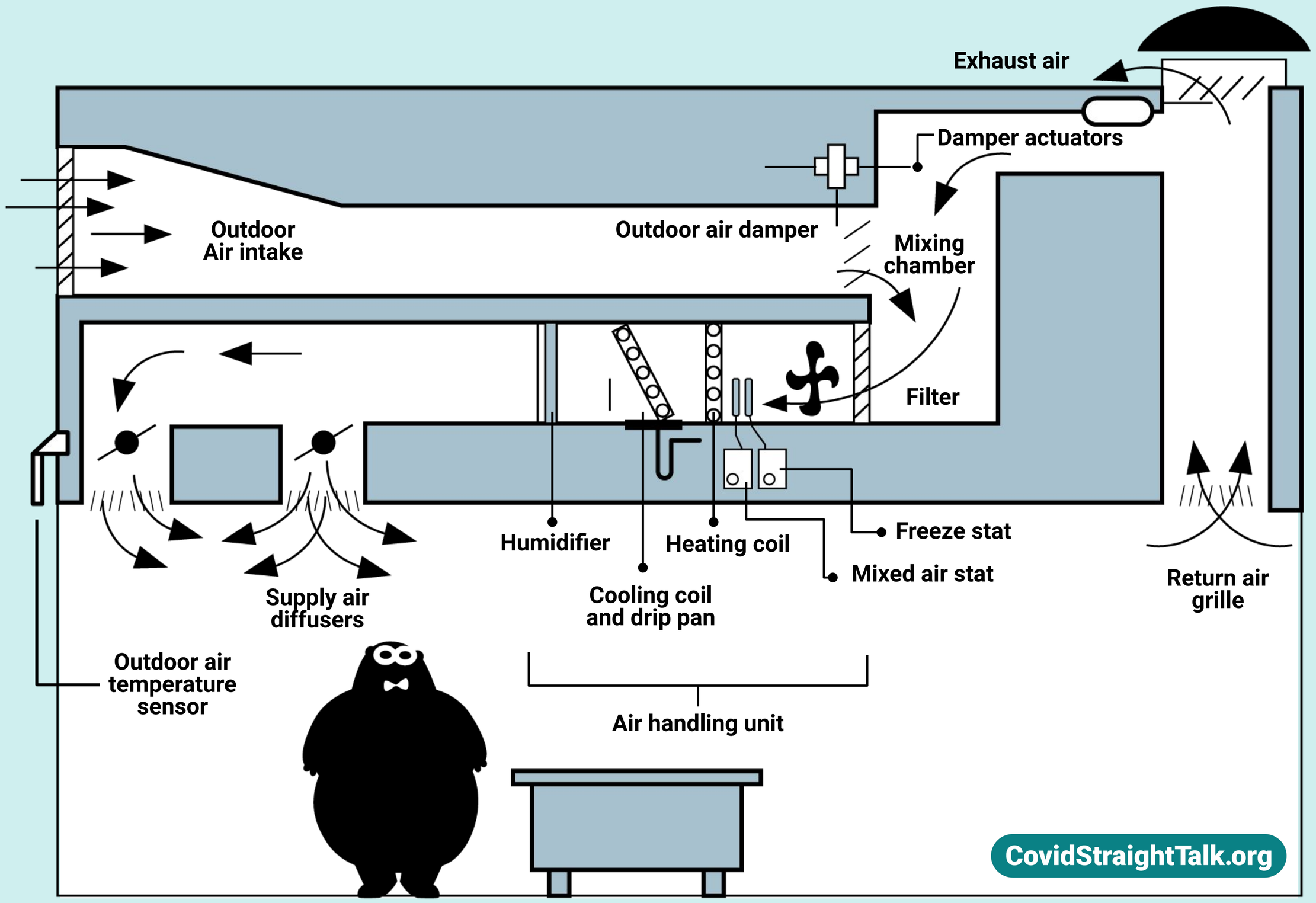
Use Mechanical Ventilation and Filtration

Keep the MERV-13-or-higher-equipped HVAC system running outside of normal business hours, including before and after hours of operation

Employers should ensure that the HVAC system is used:

- 1-2 hours before anyone enters the building
- 2-3 hours after anyone has left the building

This is especially important for the safety of any facility crews, including delivery staff and janitorial staff, who enter the space outside of normal operating hours.



Source: Adapted from NIOSH 1991

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Workplace Standards

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Use Portable Filtration Devices As Needed

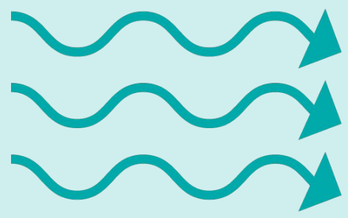
Employers should use portable filtration devices as frequently and consistently as possible, *in addition* to permanent HVAC filtration and ventilation. Ideally, portable filtration devices are *not* a replacement for HVAC filtration systems, but rather an additional layer of protection. However, in buildings that lack HVAC systems or have undersized systems—or in which system upgrade is contingent upon landlord access or scheduling of technicians—employers should use portable devices to add a critical layer of safety throughout the workspace.

Place the portable filtration devices strategically

An expert should visit the worksite to assess how many devices the space requires and where the devices should go. This expert can be either an industrial hygienist or a ventilation engineer, as long as in either case the person specializes in industrial air ventilation. Employers should *not* try to do this on their own without an expert.

Place portable filters in high-occupancy areas, between people. Air purifiers will develop air currents, so when selecting a placement, it's important to be mindful of where they draw air, and where they exhaust air. The "contaminated" air shouldn't blow towards workstations.

Never put portable devices in corners, in between furniture, or under tables. Devices in these areas won't work, because potentially contaminated air currents won't be able to reach the filters. In addition to preventing the devices from truly working, this placement also gives people a false sense of security. When people see a device, they may think it's filtering the air, even if the placement means that it's not.



Air Quality

Workplace Standards

This section is for labor unions, worker centers, and other essential worker advocates to use as a template for federal and state legislation and in contract negotiations over COVID-19 safety. This section covers air ventilation and filtration.

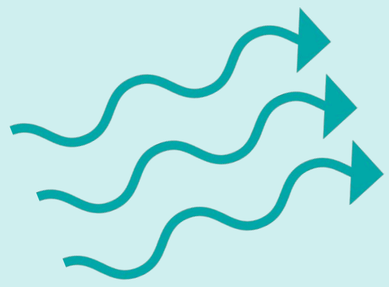
Use Portable Filtration Devices As Needed

Use “AHAM-certified HEPA filters

Employers should purchase portable devices that say “AHAM-certified,” which means they’ve been tested by the Association of Home Appliance Manufacturers. This is especially important because since the beginning of the COVID-19 pandemic, many portable filters and air cleaners have gone on the market, but *not* all have adequate documentation or reliable information to back them up.

Employers should also purchase devices that are *only* for filtration. They should *avoid* buying portable units that say they use ultraviolet (UV) light and/or germicidal irradiation (GI)—both UV and GI give off ozone, which is harmful to humans and animals. They should also avoid buying bipolar ionizers and sterilizing devices, which also produce reactive ions that are potentially harmful to the lungs.

The room size that a filtration unit says it can accommodate factors in a room with an 8-foot ceiling. If a room’s ceiling is higher than that, the calculation of how many devices are needed changes. Again, an employer should have an expert in industrial air ventilation assess the workspace and make recommendations.



Air Quality

Workplace Standards

This section is for labor unions, worker centers and other essential worker advocates to use as a template for federal and state legislation and in contract negotiations over COVID-19 safety. This section covers air ventilation.

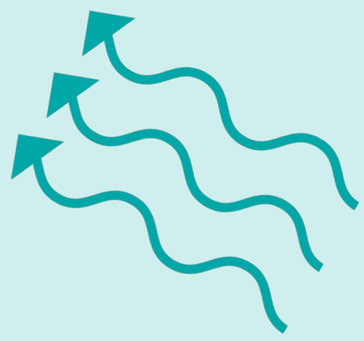
Safety Principles

Use Natural Ventilation Only in Absence of Mechanical Ventilation

Open windows and doors

If a worksite lacks mechanical ventilation such as an HVAC system, employers should keep doors and windows open to provide some ventilation. (But note that if a worksite *does* have mechanical ventilation, then windows and doors should stay *closed* in order for the system to work properly.)

However, it is important to note that opening windows and doors does not provide as reliable ventilation as mechanical ventilation and filtration. According to the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE), "Many buildings are fully or partially naturally ventilated. They may use operable windows and rely on … openings in the building envelope. … Obviously, **the airflow in these buildings is variable and unpredictable,** as are the resulting air distribution patterns, so **the ability to actively manage risk in such buildings is much reduced"** **(ASHRAE 2020).** When using natural ventilation, airflow depends on the location of doors, windows, other exhaust openings, the configuration of the room, and whether or not it's windy outside. When gauging how much opening windows and doors will reduce the risk of contracting COVID-19, it's important to pay attention to airflow and whether indoor air is being replaced with outdoor air.



Air Quality

Workplace Standards

This section is for labor unions, worker centers and other essential worker advocates to use as a template for federal and state legislation and in contract negotiations over COVID-19 safety. This section covers air ventilation.

Safety Principles

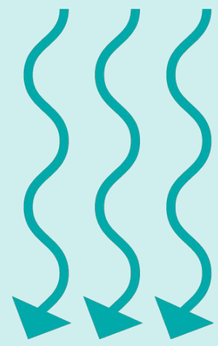
Use Natural Ventilation Only in Absence of Mechanical Ventilation

Open windows and doors

The Environmental Protection Agency (EPA) recommends:

To increase natural ventilation:

- Open more than one window or door, if possible. Do not open windows and doors if doing so poses a safety or health risk.
- Ventilation can be further increased through cross-ventilation, by opening windows (or doors) at opposite sides of (the room) and keeping internal doors open.
- Opening the highest and lowest windows… at the same time (especially on different floors) can also help to increase ventilation.
- For double-hung windows (the most common type), opening the top sash of one window and the bottom sash of another also encourages ventilation. Even when using a single window, partially opening both the top and bottom sash can help improve ventilation (EPA, n.d.).



Air Quality

Workplace Standards

This section is for labor unions, worker centers and other essential worker advocates to use as a template for federal and state legislation and in contract negotiations over COVID-19 safety. This section covers air ventilation.

Safety Principles

Use Natural Ventilation Only in Absence of Mechanical Ventilation

Use fans to enhance the effectiveness of opening windows and doors

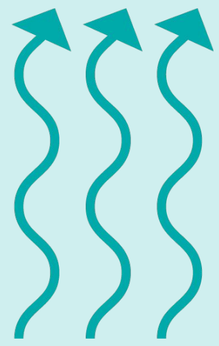
Centers for Disease Control and Prevention (CDC) recommends:

- Use fans to increase the effectiveness of open windows:
  - To safely achieve this, fan placement is important and will vary based on room configuration. Avoid placing fans in a way that could potentially cause contaminated air to flow directly from one person to another…. One helpful strategy is to use a window fan, placed safely and securely in a window, to exhaust room air to the outdoors. This will help draw outdoor air into the room via other open windows and doors without generating strong room air currents. Similar results can be established in larger facilities using other fan systems, such as gable fans and roof ventilators.

While fans alone cannot make up for a lack of outdoor air, fans can be used to increase the effectiveness of open windows. Fans can also be used indoors to improve room air mixing. Improved room air mixing helps distribute supplied clean air and dilute viral particle concentrations throughout the room, which reduces the likelihood of stagnant air pockets where viral concentrations can accumulate. As with all fan use during the COVID-19 pandemic, take care to minimize the potential to create air patterns that flow directly across one person onto another:

- Avoid the use of the high-speed settings
- Use ceiling fans at low velocity and potentially in the reverse-flow direction (so that air is pulled up toward the ceiling)
- Direct the fan discharge towards an unoccupied corner and wall spaces or up above the occupied zone.

Fans can also enable clean-to-less-clean directional airflow. Such applications should be evaluated closely to avoid unintended consequences and only adopted when supported by a safety risk assessment (CDC 2021).



Air Quality

Workplace Standards

This section is for labor unions, worker centers, and other essential worker advocates to use as a template for federal and state legislation and in contract negotiations over COVID-19 safety. This section covers air ventilation and filtration.

Map the Air

Employer should hire outside experts to assess the airflow

Employers should hire a ventilation engineer or an industrial hygienist with expertise in industrial air ventilation to assess the building's airflow and to recommend interventions that will reduce the risk of viral particles lingering in the air. Having a ventilation engineer or an industrial hygienist to assess the workspace is necessary when establishing new occupancy limits, ensuring mechanical ventilation is adequately filtering and ventilating the air, and/or reconfiguring the physical space, including where to place portable devices.

Mapping the air is important to identify all supply and return ducts in the occupied spaces (engineers should be sure to check restrooms, kitchens, and labs as well). It's important to make sure that each room has at least one air supply (to bring in fresh air), and at least one air return (to remove contaminated air). It's also best to have staff members stationed along the supply path of fresh air, rather than close to the return (since the latter is where contaminated air is exhausted). Employers should configure workstations with the airflow in mind.

You can find contact information for your local occupational safety and health organization here, which connects worker centers and labor unions with public health experts, including experts who can do a site visit: **https://nationalcosh.org/COSHGroupsList**

Distancing

Workplace Standards

This section is for labor unions, worker centers, and other essential worker advocates to use as a template for federal and state legislation and in contract negotiations over COVID-19 safety. This section covers physical distancing. In this guide, we refer to physical distancing as a plethora of strategies to reduce the chances that workers will be in physical proximity with someone who has contracted COVID-19. These strategies include, but go far beyond, being a certain number of feet away from others, which is how the idea entered public consciousness early on in the pandemic. In this section, we include recommendations for how to reduce occupancy, enable (paid) quarantining, and reconfigure an indoor workspace.

Maintain Distance to Reduce Risk of Infection Via Droplets

Maintain six feet of physical distance

COVID-19 spreads through both larger droplets and microscopic aerosols. Although staying six feet away from another person *doesn't* prevent the spread of infection via aerosols—because aerosols can travel much farther than that in a room—it can at least prevent larger droplets from one person's saliva or sneeze from landing on another person. Therefore, employers should allow workers to maintain six feet of distance between themselves and coworkers/customers in both indoor and outdoor work environments to help reduce the spread of infection via droplets. But employers should be aware that this is not enough—and that the *only* way to reduce the spread of infection via aerosols is by using proper air ventilation and filtration.

Distancing

Workplace Standards

This section is for labor unions, worker centers, and other essential worker advocates to use as a template for federal and state legislation and in contract negotiations over COVID-19 safety. This section covers physical distancing.

Reduce Occupancy and Reconfigure Indoor Workspaces

Work from home
Employers should allow all positions where work can be done from home to become remote.

Occupancy limits
Employers should limit occupancy to ensure that there is space for physical distancing of six feet to reduce the risk from droplet transmission, as well as to reduce the build up of aerosols. Industrial hygienists can assist unions and worker centers with calculating occupancy limits. To find an industrial hygienist in your area, contact your local National Council for Occupational Safety and Health (NCOSH) affiliate: **https://coshnetwork.org/COSHGroupsList.** CO2 monitors can also be useful when calculating occupancy limits. See Appendix on "How to Use CO2 monitors" for more information.

Outdoor break areas
Employers should create outdoor break areas, weather-permitting, and encourage workers to go outdoors for all meal breaks and for other times they need to take off their mask. Physical distancing of 6 feet should be observed in outdoor areas to reduce the risk of droplets from one person landing on another person.

Distancing

Workplace Standards

This section is for labor unions, worker centers, and other essential worker advocates to use as a template for federal and state legislation and in contract negotiations over COVID-19 safety. This section covers social distancing.

Quarantine and Isolation

Workers should have the right to quarantine after exposure to a positive case and should be guaranteed job protection during their isolation. This is to reduce the risk of anyone being in close physical proximity to someone who currently has COVID-19.

Paid quarantine for exposures

Employers should guarantee to all workers the right to quarantine after testing positive for COVID-19 or after exposure to a positive COVID-19 case, regardless of whether an exposure happened at work or outside of work. All staff members who report exposure should be allowed to quarantine for two weeks with no threats, pressure, loss of hours, or position after returning to work. This period of quarantine and isolation should not constitute a break in service, nor should it be deducted from service credits for the purpose of seniority, including for the purpose of accumulated leave calculations. And regardless of whether the exposure happened at work or outside of the workplace, employers should pay workers their usual rate or salary during quarantine.

Distancing

Workplace Standards

This section is for labor unions, worker centers, and other essential worker advocates to use as a template for federal and state legislation and in contract negotiations over COVID-19 safety. This section covers social distancing.

Use Contact Tracing

Employers should use contact tracing to inform staff of their exposure to known positive cases. This is important so that workers know as soon as possible that they need to take immediate action. Once they know they have been exposed to COVID-19, they can get tested to see if they are infected, and they can isolate themselves away from others as much as possible to prevent further spread of infection.

Immediate notification of exposure to all staff

Employers should give timely notice to all staff members who may have been exposed to a positive case, whether the exposure came from coworkers or visitors. Timely notice may vary depending on the testing or reporting process of the case, but supervisors should inform the staff under their jurisdiction within 12 hours of receiving information of a positive test result.

Reporting to authorities

Employers should report to the relevant authorities all workplace transmission events, positive cases, and potential exposures. That includes when workers are quarantined, regardless of their subsequent COVID-19 test results.

Distancing

Workplace Standards

This section is for labor unions, worker centers, and other essential worker advocates to use as a template for federal and state legislation and in contract negotiations over COVID-19 safety. This section covers social distancing.

Use Testing to Reduce the Chance of Someone Infected Going to Work

Anyone who believes they were exposed to COVID-19, even if they're asymptomatic and/or vaccinated, should have access to testing.

Uncontested scheduling changes for testing

Any worker who states a need to test should receive changes in scheduling to accommodate testing.

Employers must support and pay for testing for any workplace exposure

If an exposure to COVID-19 took place at work, the employer should pay the worker for time spent testing, traveling to the test site, and scheduling a test.

Regular testing

Employers should establish employer-funded, on-site rapid-testing programs, and/or provide take-home tests. If any worker tests positive for COVID-19, the employer should send that person home immediately, following the guidelines in the Quarantine and Isolation section, with no loss of pay to the worker.

Appendix

Use a CO2 “Air Alarm” as a Tool to Check Indoor Air Safety

When we breathe out, we emit CO2. CO2 monitors are able to measure the amount of CO2 in a room and are one tool to measure how well the air is being ventilated. Ideally, indoor CO2 levels should be 600ppm or lower, which shows that there’s enough ventilation that contaminated air from people exhaling is getting removed from a room to make it more COVID-safe (other factors such as whether people are masked, physically distanced and vaccinated will also continue to play a role in whether the room is COVID-safe). However, outdoor CO2 levels affect indoor levels, and outdoor CO2 levels vary from community to community. CO2 levels are often higher in communities impacted by environmental racism. Therefore, what is considered a COVID-safer indoor CO2 level will vary from place to place. Knowing outdoor CO2 levels in your community will be helpful when establishing what indoor CO2 levels indicate a reduction in the likelihood of contracting COVID-19. In places where the C02 levels are so high outdoors that it would be impossible to get down to 600ppm indoors, a different approach is needed to measure if there’s enough indoor air ventilation. In these places, ideally indoor air should be no more than 300ppm above whatever the outdoor C02 level is. Meaning, the outdoor air is the baseline, and the indoor air shouldn’t exceed 300ppm C02 higher than that baseline. If the CO2 levels indoors are more than 300ppm above the outdoor level that means the air in your workspace is not being ventilated well enough.

To make sense of these numbers, and understand why they should not be treated as absolute, it is important to understand a little bit of context:

- The recommendation for the 600ppm goal is based on recent literature that has demonstrated that in an underventilated dormitory in the midst of a tuberculosis outbreak, there was a correlation between the ventilation being increased to the point where an occupied space was consistently at or below 600ppm, and the abatement of the outbreak
- 800ppm has been recommended as a maximum threshold based on numerous studies that show that areas where CO2 concentration is above 800ppm have an increase in reports of poor air quality and sick building syndrome, characterized by symptoms of eye, nose, and throat irritation, cough, dry and/or irritated skin, fatigue, difficulty concentrating, dizziness, and or nausea. The last four symptoms in particular can also be caused by elevated levels of CO2. The 800ppm recommendation is also based on studies that correlate indoor levels of CO2 at or above 945ppm with a 15% decline in human cognitive function, and a 50% decline in cognitive function by the time indoor CO2 levels reach 1400ppm

However, indoor CO2 is impacted by outdoor CO2, and areas where baseline outdoor CO2 is elevated may never be able to achieve indoor CO2 levels of 600ppm, and this is the basis for our recommendation of using 300ppm above outdoor CO2 concentration, to account for high concentrations outdoors. Elevated outdoor CO2 may often be a result of elevated pollution, due to proximity to industrial facilities, high traffic roadways, sewage works and landfills, and other emitters; these tend to disproportionately impact Black, Indigenous, People of Color (BIPOC) communities. Therefore it is important to take into account the impact of environmental factors, such as environmental racism, when calculating what indoor CO2 levels indicate a reduction in the risk of contracting COVID-19.

Appendix

Use a CO2 “Air Alarm” as a Tool to Check Indoor Air Safety

Use CO2 monitors as air alarms

Workplaces can use CO2 monitors as a tool to track how safe your indoor air is. To identify the baseline CO2 levels present at the current levels of occupancy, take CO2 measurements during normal operations and hours.

- Complete an occupancy check at each time CO2 measurements are taken
- Ensure that measurements are taken with portable CO2 monitors at multiple locations, with a focus on areas of high occupancy and areas *away* from ventilation sources such as open windows and HVAC vents. The idea is to learn about air quality in places that may be least safe, air-wise
- Ensure that measurements are taken during “peak” or “rush” times
- Ensure that measurements are taken after the first 2-3 hours of operations, regardless of occupancy level

If CO2 levels rise above the thresholds described above, that is an indication that your mechanical ventilation system or HEPA filters aren’t working adequately—or that the occupancy in the room is too high. You and your coworkers can use CO2 alarms to empower yourselves to identify when further airflow interventions are needed, whether that means reducing occupancy or making improvements to your mechanical ventilation system.

Appendix

Supporting workers as full people

It’s essential that moving through this pandemic we fight for the rights of workers as full people. Below is a list of worker-led legislative campaigns you can support. For each campaign, you’ll find a website link to go to in order to take action as well as a blurb about what that campaign is about.

This pandemic has highlighted how reliant our country is on the labor of workers, and we need to ensure that everyone is not only safe at work but also has access to healthcare, a clean environment, and a pathway to citizenship.

Protecting the Right to Organize (PRO) Act:

For more information visit: **https://aflcio.org/pro-act**

“Our nation’s labor laws are woefully outdated and have become ineffective as a means for working people to have our voices heard. But the most significant worker empowerment legislation since the Great Depression is now in the hands of the Senate. That bill, the Protecting the Right to Organize (PRO) Act, is landmark worker empowerment, civil rights and economic stimulus legislation, and an essential part of any plan to build back better from the COVID-19 pandemic and recession” (AFL-CIO 2021).

Medicare for All:

For more information visit: **https://www.nationalnursesunited.org/medicare-for-all**

“Astronomical health care costs and lack of access continue to drive individuals, families, and businesses past their breaking point while insurance companies continue to soak-up billions of health care dollars as millions of children’s basic needs go unmet. Medicare has provided guaranteed health care for millions of seniors for more than 51 years. It’s time we have a Medicare for all, single-payer health care system that would end health disparities, effectively control costs, and assure that everyone has equal access to an excellent standard of care” (National Nurses United, n.d.).

A Pathway to Citizenship for Domestic Workers:

For more information visit: The National Domestic Workers Alliance (NDWA) petition to congress

“An inclusive and equitable national recovery plan must also include dignity, safety and security for the millions of immigrant essential workers, including domestic workers, who continue to be on the frontlines of our global pandemic, performing jobs to keep our country running — in times of stability and crisis. That's why we're demanding that Congress invest now in building a care economy — one that ensures that care jobs are good, dignified jobs. In order to make that happen, we need a pathway to citizenship for immigrant domestic workers” (NDWA, n.d.).

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For a full index of all of the references that were part of the development of the M.A.D.+ policy guide, please see **COVID Straight Talk Lab's Essential Library (bit.ly/EssentialLibrary).**

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