COVID-19 Back to Work Ventilation FAQs

September 21, 2020

Limiting COVID-19 transmission in the workplace involves the following critical elements outlined in the University’s COVID-19 Prevention Plan.

- Physical distancing of at least 6 feet between people and reducing density work University spaces.
- Wearing face coverings to contain the wearer’s respiratory secretions.
- Staying home when you are sick and symptomatic.
- Cleaning and disinfection of high touch surfaces.
- Education, training, and awareness

Maintaining building systems, including central heating, ventilation, and air conditioning (HVAC) systems, to support safe occupancy is a supplemental effort to the University's COVID-19 prevention measures.

This document contains responses to frequently asked questions from occupants in University facilities. Building coordinators and facility managers may share the responses with occupants as appropriate.

I'm concerned about COVID-19 and the air quality in my work area. How do I know my work area has adequate ventilation?

University of Washington buildings are typically supplied with a percentage of outside air either via natural ventilation or mechanical fans, dependent on each building and system. Those systems are maintained to provide ventilation and thermal comfort as designed through the following activities:

- Air filters are in most buildings equipped with central heating, ventilation, and air conditioning (HVAC) systems are rated at MERV-13 or higher as recommended by the CDC.
- HVAC systems are set to maintain appropriate indoor temperatures as much as system designs allow, which minimizes thermal stresses on the body. Systems often do not have the capacity to increase outside air ventilation rates while still maintaining recommended indoor temperature ranges.
- Building HVAC systems continued to operate normally during the "Stay Home, Stay Healthy" period, even while buildings were unoccupied. The systems were not shut down due to decreased occupancy load, but may be temporarily shut down for regular or emergency maintenance unrelated to COVID-19.
Laboratory ventilation systems operate continuously with 100% outside air supply that is not recirculated in the building and is exhausted directly to the outside.

In most cases, exhaust fans in restrooms operate continuously when buildings are occupied. Some restrooms are equipped with a wall switch operated by the occupant, in which case it's suggested to keep toilet exhaust fans operating continuously. For restroom exhaust fans to work best, it is recommended to avoid opening operable windows in restrooms and keep restroom doors closed (or mostly closed for single restrooms not in use).

In naturally ventilated areas, operable windows should be open while spaces are occupied.

In mechanically ventilated areas, operable windows may also be opened to supplement mechanical ventilation when outside temperatures are moderate.

When possible, keeping conference room doors open can help promote good ventilation.

Report building HVAC issues by campus location:

- On the Seattle campus, contact UW Facilities Customer Care Team at careteam@uw.edu or 206.685.1900.
- At UW Bothell, submit an Online Work Order Request to UW Bothell Facilities Services.
- At UW Tacoma, submit an Online Work Order Request to UW Tacoma Facilities Services.

What is being done to verify building HVAC systems are operational, given COVID-19?

UW Facilities is checking HVAC systems to ensure that buildings are ready for reoccupation, including, but not limited to the following:

- Fan systems are functional and operating.
- Central HVAC fan filters are within acceptable operating ranges and replaced as necessary.
- Fan filter racks are inspected for major gaps or damage.
- Outside air ventilation rates are being increased in recirculating HVAC systems where possible.

Can I turn on a portable air-conditioning unit or fan when it gets too hot?

- Yes, but the discharge airflow should be directed away from the body and face of other people to prevent potential transmission to nearby individuals.
- Follow all manufacturer instructions for use and maintenance for the specified model.
Can I use or purchase a portable air cleaner or air filter for my area? What kind of portable air purifier should I purchase?

- Yes, individuals may use a portable air cleaner or air filter in their work area. Check with your department leadership and Building Coordinator prior to use.
- When used properly, portable air cleaners and air filters can help reduce the presence of airborne particles. However, a portable air cleaner should not be relied on to prevent COVID-19 transmission.
- The portable air purifier should be sized appropriately for the square footage where it will be placed.
- Consult with the [Environmental Protection Agency (EPA) Air Cleaners and Air Filters In the Home](https://www.epa.gov/energy/energy-conservation-air-purifiers) guidance document.
- Follow all manufacturer instructions for use and maintenance for the specified model.

Can the building’s outdoor air ventilation rate be increased?

Some HVAC systems are designed to mix outside ventilation air with air recirculated from occupied spaces as required to comply with applicable energy codes. Many UW systems do not have capacity to increase outside air ventilation rates while still maintaining recommended indoor temperature ranges.

How many air changes per hour are in my room?

- Air changes per hour (ACH) is defined as the volume of ventilation air that is supplied and removed from the room every hour. The ventilation air can be through natural or mechanical ventilation systems and helps to remove contaminants from a room.
- The number of air changes per hour in each room in a building can vary throughout campus.
- In general, laboratories are typically supplied with 6-12 air changes per hour, and office areas are typically supplied with 4-8 air changes per hour, in accordance with the American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) standards.
- If you notice evidence of inadequate air quality in your space (e.g., air seems stuffy or stagnant) or thermal comfort, please submit a [Facilities Work Request](https://www.ehs.washington.edu) for evaluation.

Can my building’s supply airflow or exhaust airflow be increased or rebalanced?

HVAC supply and exhaust systems work in tandem to maintain building pressures that are close to neutral. While many systems do not have fan capacity to increase airflow, those adjustments can also cause uncomfortable drafts, increase noise from HVAC diffusers, and create challenges for safe egress and security if air pressure holds exterior doors open.
What ventilation is provided in stairwells?

While some stairwells may have operable windows, stairwells are not provided with mechanical ventilation.

Can ultraviolet lamps be installed within our building’s HVAC system or within rooms?

Ultraviolet germicidal irradiation (UVGI) is a known technology used to reduce the transmission of airborne microorganisms, including bacteria, viruses, molds and other pathogens. However, the efficacy of high intensity UV irradiation against SARS-CoV-2 is not known. The Centers for Disease Control and Prevention (CDC) and the Environmental Protection Agency (EPA) do not routinely review the safety or efficacy of such light, and therefore cannot confirm whether UVGI might be effective against the spread of COVID-19.

According to CDC guidelines, UVGI should only be considered as a supplemental technique to inactivate potential airborne viruses in the upper-room air of common occupied spaces and in the HVAC system. Moreover, it can be difficult and expensive to retrofit this technology into existing office and classroom buildings. Alternately, the large number of upper-room UVGI lamps installed on walls or suspended from ceilings to disinfect upper air of spaces make them an expensive strategy, and care must be taken to properly shield occupants to ensure no exposure of persons in the room. Regular maintenance of UVGI systems is also critical to ensure effectiveness of the light and usually consists of keeping bulbs free of dust and replacing old bulbs as necessary.

Because the clinical effectiveness of UV systems may vary, UVGI is only recommended by the American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) for HIGH RISK areas, such as healthcare facilities and is not considered to be a cost-effective risk mitigation measure for LOW and MEDIUM risk areas. As such, UVGI technology is only being considered in specialized areas.