

Interim Ventilation Guidance during COVID-19

What:

Ventilation, filtration, and disinfection can reduce the transmission of airborne viruses in indoor spaces.

Ventilation: Exhaust of indoor air which is replaced by outside air either mechanically or passively through leaks.

Filtration: Filtering of indoor air that is moved through a heating or cooling system and redelivered to the building can reduce virus spread with proper filters (MERV-13 or HEPA). Not all systems can operate properly with such filters, consult an HVAC professional.

Disinfection: UV light can disinfect air as it passes through an HVAC system. UV disinfection systems are commercially available to add to HVAC systems, these systems require professional installation and may not be appropriate for all situations.

Why:

Increased ventilation rates has been linked to reduced transmission of viruses similar to COVID-19.

- Enough mechanical ventilation shall be provided to keep rooms free of excessive heat, steam, condensation, vapors, obnoxious odors, smoke, and fumes.
- Improve central air and other HVAC filtration to the highest quality available for your system to operate properly, consult an HVAC professional if unsure. Too high of filtration may damage equipment.
- If possible, HVAC systems should be bringing air from the outside as much as reasonable (not just recirculating air), turning air over at least 6-12 times an hour. A qualified technician may be needed to ensure changes to systems do not create more problems.
- Intake and exhaust air ducts shall be cleaned and filters changed so they are not a source of contamination by dust, dirt, and other materials. Filters should be handled as a biohazard, with personal protective equipment.
- In general, disabling of heating, ventilating, and air-conditioning systems is not a recommended.
- Restaurants should avoid seating people close to air vents where air is being pushed out to avoid creating a flow of viruses from an infected person to people sitting downwind.
- Public gathering spaces without mechanical ventilation should consider adding it. Ventilation should be installed by professionals.
- Portable air filters are a relatively low cost and effective means for retrofitting spaces that lack filtration systems and natural ventilation. Add portable room air cleaners with HEPA or high-MERV filters with due consideration to the clean air delivery rate.
- Keep systems running longer hours, at least when occupied, 24/7 if possible, including in restrooms.
- Add restroom fans or ventilation fans if they are not in place. Ventilation should be installed by professionals.
- Lids should be required on toilets and should be put down before toilets are flushed.
- Keep toilet doors closed even when not in use. Restaurant toilet rooms shall be completely enclosed and provided with a tight-fitting and self-closing door.
- Maintain temperature and humidity levels. Ideal ranges are temperatures of 68-74 °F and humidity of 40-60%.
- Increase outdoor air ventilation. To increase outdoor air ventilation, you can:
 - Encourage natural ventilation when feasible such as opening windows, or screened doors, if possible.
 - Operate a window air conditioner that has an outdoor air intake or vent, with the vent open (some window air conditioners do not have outside air intakes).
 - Open the outside air intake of the HVAC system, if yours has one (this is not common). Consult your HVAC manual or an HVAC professional for details.

Guidance for Ventilation in Homes:

When used properly, air purifiers can help reduce airborne contaminants including viruses in a home or confined space. However, by itself, a portable air cleaner **is not enough** to protect people from COVID-19. When used along with other best practices recommended by the Centers for Disease Control and Prevention, operating an air cleaner can be part of a plan to protect yourself and your family.

By itself, running your HVAC system **is not enough** to protect yourself and your family from COVID-19. However, when used along with other best practices recommended by the Centers for Disease Control and Prevention, operating the HVAC system can be part of a plan to protect yourself and your family, since running your HVAC system filters the air as it is circulated.

Service your HVAC system to ensure it is working properly. Maintain and clean ductwork for exhaust air including bath fans and exhaust from central HVAC. Clean intake grills and fans to ensure they move air efficiently; clean fans and ductwork will save energy and move more air. Repair or replace duct work that is crushed, especially ventilation ducts like bath fans. Check outside air grills for blockage and clean them regularly to maintain good outside air flow.

If you have an HVAC system:

- Run the system fan for longer times, or continuously, as HVAC systems filter the air only when the fan is running. Many systems can be set to run the fan even when no heating or cooling is taking place.
- Check to be sure the filter is correctly in place and consider upgrading the filter to a higher efficiency filter or the highest-rated filter that your system fan and filter slot can accommodate (consult your HVAC manual or an HVAC professional for details).
- Open the outside air intake, if your system has one (this is not common for home systems). Consult your HVAC manual or an HVAC professional for details.

Ensuring proper ventilation with outside air is a standard best practice for improving indoor air quality. However, by itself, increasing ventilation **is not enough** to protect people from COVID-19. When used along with other best practices recommended by the Centers for Disease Control and Prevention, increasing ventilation can be part of a plan to protect yourself and your family.

To increase ventilation in your home, you can:

- Open the windows, or screened doors, if possible.
- Operate a window air conditioner that has an outdoor air intake or vent, with the vent open (some window air conditioners do not have outside air intakes).
- Open the outside air intake of the HVAC system, if yours has one (this is not common). Consult your HVAC manual or an HVAC professional for details.
- Operate a restroom fan when the restroom is in use and continuously, if possible.

Will an Ozone Generator protect me and my family from COVID-19?

No, do not use ozone generators in occupied spaces. When used at concentrations that do not exceed public health standards, ozone applied to indoor air does not effectively remove viruses, bacteria, mold, or other biological pollutants.

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