

# At Home Ventilation, Air Filtration, and COVID-19

## Why Ventilation and Filtration is important

With Canadians spending more time at home and indoors, transmission of COVID-19 is concerning. Ventilation and filtration can reduce the risk of COVID-19 transmission, improve air quality, and benefit respiratory health.

## Respiratory Droplets and Aerosols

The virus causing COVID-19 spreads from person to person through aerosols and respiratory droplets. These are produced when we:



Breathe



Talk



Sing



Shout



Cough



Sneeze

Due to gravity, larger and heavier droplets fall quickly. Smaller and lighter droplets, the aerosols, remain suspended in the air for longer. These aerosols can travel through the air and come into contact with someone even at a distance, this is called airborne transmission. Environmental conditions, such as temperature, humidity, and airflow, can also impact the spread of the virus.

The risk of spread due to aerosols may be increased when there are gatherings of people indoors for a longer period of time. Proper airflow and ventilation can help reduce the risk. Good airflow and ventilation do not replace the need for personal public health measures including:

- Avoiding crowded spaces and non-essential travel.
- Maintaining a minimum of 2-metres of physical distance with people who aren't in your household.
- Wearing a snug-fitted, well made mask (e.g. respirator or medical grade mask) for better protection.
- Practicing good hand hygiene.

Always refer to the [current rules and regulations](#) in Peterborough before planning a gathering. The safest option is to stay home and interact with household members only. If you meet someone outdoors, remember to maintain 2-metres of physical distance. If 2 metres of physical distancing cannot be maintained, wear a mask.

## Heating, Ventilation and Air Condition (HVAC) Systems

HVACs and their filters can add an extra layer of protection when used with other public health measures. HVACs can reduce airborne pollutants, including virus particles, circulating through your house. To get the most benefits out of your HVAC system, consider these tips:

- Ensure your system is properly installed, maintained and operated.
- Refer to the owner's manual for specific information on maintenance, such as filter replacements and size.
- Use the highest efficiency filters that are compatible with your system.

- Arrange furniture away from air vents.

The HVAC system is only able to filter the air if it is running, turn the fan setting to ON. Please note that this may result in additional costs due to the use of electricity.

## Air Purifiers

Currently, there is limited evidence to show that air purifiers reduce the spread of COVID-19. Air purifiers or cleaners should not be used to replace other ventilation options or personal public health measures including physical distancing, mask use, and hand hygiene. If you do use an air purifier, then:

- Run them continuously.
- Aim the air flow to avoid blowing at or between people.
- Position the device to allow unobstructed air flow.
- Ensure the device is certified by a recognized body, such as [Association of Home Appliance Manufacturers](#).
- Ensure the Clean Air Delivery Rate (CADR) is high enough for your room size.
- Follow manufacturers instructions and recommendations.

## Humidifiers

Humidifiers do not remove the virus from the air, but can impact how long they are in the air and/or how long they are infectious. Optimal indoor humidity is at 30-50%. Lower humidity levels can cause particles to shrink and remain suspended in the air for longer. Higher humidity levels promote condensation on surfaces. Condensation can cause damage to your homes by promoting mold and mites.

## Other Ventilation Devices

Other ventilation devices used to improve air quality are heat recovery ventilation (HRV) and energy recovery ventilation (ERV). Both devices exchange stale indoor air with outdoor air. HRVs exchange the air while transferring heat between indoor and outdoor air. This ensure that indoor air remains warm in the winter, and cools in the summer. ERVs transfer both heat and humidity. For full benefits, run the devices continuously.

## Natural Ventilation, Fans, and Single Unit Air Conditioners

Natural ventilation is a great way to circulate and exchange air without HVAC systems. Open your windows and doors if the weather permits, and if doing so does not pose a security or safety risk. Opening multiple windows improves ventilation by promoting cross-currents through the room.

## Air Purifiers

Portable fans, ceiling fans, and single unit air conditioners circulate air but do not filter air in the room. Fans can blow particles away from the source and contribute to the spread of COVID-19. When using a fan, aim the air flow to avoid blowing at or between people.

For more information, please click [here](#).