



Ventilation System Guidance During COVID-19

The purpose of this document is to provide a quick overview, practical guidance, and resources for heating, ventilating, and air-conditioning (HVAC) systems during COVID-19. More comprehensive guidance for HVAC systems is available from the American Society of Heating Refrigerating and Air Conditioning Engineers (ASHRAE) in its [Guidance for Building Operations during the COVID-19](#) and [Guidance for the Re-Opening of Schools and Universities](#).

The Centers for Disease Control and Prevention (CDC) recommends schools, child-care programs, workplaces, congregate living facilities, and other locations consider upgrades or improvements to their HVAC system during the COVID-19 pandemic.

Brief summary of recommended HVAC system improvements

- Increase air changes per hour (ACH).
- Increase outside air.
 - Use caution in areas where particulate matter or other hazardous air pollutants are a concern.
- Disable demand-controlled ventilation (DCV).
- Open outdoor air dampers to reduce or eliminate recirculation.
 - This may affect thermal comfort and humidity, especially during extreme weather.
- HVAC system filters should be MERV-rated and properly installed.
 - A minimum efficiency rating value (MERV) of 13 or higher is recommended.
 - Ensure the filters are properly installed and have no gaps to allow air to by-pass them.
- Keep systems running longer and, if possible, 24/7.
- Consider using portable HEPA filters in areas with high occupant density, as well as:
 - Higher risk areas such as a school nurse's office.
 - Locations with no mechanical ventilation or filtration.
 - Poorly functioning HVAC systems to aid the system.



Picture is from the following site:
<https://www.livescience.com/3648-children-adults-colds.html>

Additional HVAC systems' guidance

Ensure the HVAC system operates properly and provides acceptable indoor air quality for the occupants and building spaces.

- Understand the limitations and specific type of your building's HVAC system.
- Check common areas (e.g., bathrooms, kitchens, etc.) and exhaust fans to ensure they are working correctly.
- Check that the ducts are balanced and working according to the system design.
- Obtain consultation from experienced HVAC professionals when considering changes to HVAC systems and equipment.
- Periodically clean all HVAC systems and replace filters so the system can function properly.
 - Follow manufacturer's recommendations on maintenance and filter replacement.
- Consider running business and school HVAC systems at maximum outside airflow (100 percent) for two hours before the first individual arrives and two hours after the last individual leaves.
 - If possible, extend this recommendation beyond the time suggested above.
- When weather conditions allow, increase fresh outdoor air by opening windows and doors.
 - Do not open windows and doors if doing so poses a safety or health risk to children or individuals using the facility.
 - Use fans to increase the distribution of outside fresh air while doors and windows are open.
 - Facilities should consult with local fire officials regarding compliance with the fire code and local fire ordinances.
- Consult with your building engineer before using floor fans, ceiling fans, fan-forced heaters, and similar appliances so they can evaluate changes in air flow that may increase the risk of spreading particulates, droplets, and aerosols from person to person or affect HVAC system performance.
 - Do not direct fans so they are blowing directly at individuals.

Note: Consult with your building engineer and maintenance staff on current practices to maintain the HVAC system and any improvements that can be made.

Where Can I Get More Information?

Contact the IDPH Environmental Toxicology Section
Phone: (217) 782-5830