



Guidance for Community Cooling Centres During B.C.'s Restart Plan

June 25, 2021

This guidance is intended to help municipalities establish and run emergency community cooling centres during the next steps of [B.C.'s Restart Plan](#). It may also be a useful resource for other types of operators, including community-based organizations and housing.

Introduction

Overheating during extreme hot weather can lead to dangerous health conditions [such as heat exhaustion and heat stroke](#). Older adults, infants and children, those with chronic diseases, outdoor workers and marginalized populations are more vulnerable in hot weather.

The best way to prevent adverse health effects associated with hot weather is to stay inside, if possible, or seek cooler spaces. Community cooling centres can provide a comfortable environment during extreme hot weather.

Steps should be taken to reduce the risk of communicable disease transmission. These guidelines include general considerations that apply to all types of cooling centres as well as more specific considerations for four different types of cooling centres:

1. Indoor spaces with *central* air conditioning;
2. Indoor spaces with *portable* air conditioning;
3. Indoor spaces with *no* air conditioning; and
4. Outdoor cooling centres.

In addition to these guidelines, employers are required by the provincial health officer to have communicable disease plans. All staff and volunteers should be familiar with the plan, which should focus on employees and volunteers staying home when sick, appropriate handwashing and personal hygiene practices and adequate ventilation.



Staying Cool

Overheating occurs when normal human body temperature cannot be maintained. There are two important strategies for staying cool during hot weather:

1. Create cooling spaces with ambient temperatures within a comfortable human range, usually lower than 26°C.
2. Maintain healthy body temperature by hydration and evaporative cooling through the skin.

The human body cools itself by sweating, so drinking lots of water is critically important during hot weather, even for those who do not feel thirsty. Sweat provides the most effective cooling when air from a natural breeze or a fan moves over the skin and evaporates the moisture. Applying water directly to the skin using a sprayer, a wet towel or a wet shirt can also help to promote evaporative cooling, especially in situations when the ambient temperature is high.

Communicable Disease Considerations for All Cooling Centres

Cooling centres can bring together large groups of people. Although physical distancing and capacity limits are no longer required, the following precautions should be in place to reduce risk of communicable disease transmission among visitors and staff:

- **Be aware of communicable disease symptoms:** Visitors who feel unwell or who have been diagnosed with a communicable disease should maintain at least two metres of physical distance from others and wear a mask. If an individual cannot wear a mask, more distance should be maintained.
 - Note that the early signs of heat stress, such as headache, fatigue and elevated body temperature, are similar to symptoms of many communicable diseases. Elevated body temperature due to heat stress may take up to 30 minutes to normalize in a cool environment. If body temperature does not normalize, additional assessment may be needed.
- **Promote hand hygiene and respiratory etiquette:** Hand sanitizer should be available at the entrance, exits and throughout the space. Post signs reminding visitors to cough and sneeze into their elbows and to clean their hands after using a tissue. Washrooms should remain open to visitors.
- **Ensure adequate ventilation:** Conduct regular maintenance on mechanical ventilation systems to ensure that they are functioning as designed. Open doors and windows in spaces without mechanical ventilation. More information on ventilation is [provided by WorkSafe BC](#) and below for three types of indoor cooling centres.
- **Recommend masks indoors:** Face masks are mandatory for indoor public settings during [step 2](#) of B.C.'s Restart and are recommended during [step 3](#). Individual decisions about mask use should be respected.
- **Avoid overcrowding:** Opening larger cooling centres and more locations will help to give everyone enough space to feel comfortable.



Indoor Spaces with Central Air Conditioning

Large facilities with mechanical heating, ventilation and air conditioning (HVAC) systems are the best option for indoor cooling. It is very important to ensure that the HVAC system is operating properly, as poor ventilation is a risk factor for communicable disease transmission.

- Consult with HVAC professionals to ensure that the system is working properly prior to establishing the cooling centre.
 - Reduce air recirculation and increase the fresh air intake as much as possible while maintaining a comfortable indoor temperature and humidity.
 - Check to assure that fresh air dampers are operating properly.
 - Leave the ventilation system fans running to keep the air fresh. Turn them *down* rather than *off* to save power when the space is unoccupied.
 - Keep areas near HVAC air supply and exhaust clear of people and objects.
- Consider using passive methods such as outdoor awnings, shades, window films or greenery to limit heating by direct sunlight.

Indoor Spaces with Portable Air Conditioning

Portable air conditioners can be used to provide cooling in smaller spaces with adequate mechanical ventilation. They should not be used in spaces without mechanical ventilation, as they may lead to recirculation of viruses or other pathogens when doors and windows are closed.

- Follow the same HVAC guidance provided above.
- If purchasing new air conditioning units, consider the similarities and differences between single and dual hose units:
 - Both types intake, cool and recirculate air from the room. Mechanical ventilation is required to introduce adequate fresh air into the room.
 - Neither type is typically equipped with high efficiency (HEPA) air filters.
 - Single hose units use air from the room to maintain their internal temperature and then vent that air outdoors. This creates negative pressure and leads to air from outside of the room being drawn in to replace the air that has been lost.
 - Dual hose units use outdoor air to maintain their internal temperature and then vent it back to the outdoors. This leads to slightly more recirculation of air in the room because air from outside of the room is not being pulled inwards.
 - In general, dual hose units cool more effectively and single hose units use less energy.
- Direct airflow from the air conditioner away from people, so that it does not blow across the breathing zone.
- Seating should not be arranged near air conditioner units.



Indoor Spaces without Air Conditioning

Some indoor spaces without mechanical ventilation or air conditioning can be effectively cooled with natural ventilation and fans.

- Choose a space that is naturally cooler, such as a well-ventilated basement or north-facing room, preferably with high ceilings.
- Choose a space that has windows and doors on multiple walls, to increase the natural cross breeze.
- Open windows and doors as much as possible.
- Use outdoor awnings, shades or greenery to reduce direct sunlight coming through the windows.
- Use ceiling or oscillating wall fans to direct air downwards.
- Avoid pedestal, tabletop and floor fans that blow across the breathing zone.
- Avoid power breezers, blowers or air conditioning units with strong, horizontal airflow across the breathing zone.
- Consider evaporative (swamp) coolers when the relative humidity is lower.

Outdoor Spaces

Risk of communicable disease transmission is lower outdoors than indoors, which makes outdoor cooling areas an attractive option.

- Whenever possible, choose an area that is:
 - Shady and breezy throughout the day.
 - Surrounded by large trees and other vegetation which provide shade and evaporative cooling.
 - Away from heavy traffic to reduce urban heat and air and noise pollution.
 - Near natural or constructed water features such as oceans, lakes, rivers, streams, large fountains or spray parks.
- Ensure that water for drinking and cooling is easily accessible:
 - Nearby washrooms facilitate hand hygiene and water access.
 - Nearby water fountains provide drinking water and cooling water that can be used to spray on, soak towels or clothing.
 - Consider establishing sprinklers or putting out buckets of water for soaking clothing, sponges and towels

Other Considerations

Humidity

Higher humidity affects evaporative cooling, which makes hot weather more uncomfortable. The [humidex](#) value is often reported in Canada. When the reported humidex is greater than 40°C, cooling options without air conditioning may not protect sufficiently against heat.



Wildfire Smoke

Hot and dry weather is often associated with wildfires in British Columbia. Extra considerations are needed for cooling centres under smoky conditions:

- Indoor spaces without air conditioning and outdoor spaces should not be used.
- Indoor spaces with mechanical ventilation should consider increasing air filtration by the air handling units in the HVAC system. Filters with a minimum efficiency reporting value (MERV) of 13 or higher are recommended whenever possible.
- Supplementary air filtration with portable air cleaners should be considered, especially in smaller spaces using portable air conditioners.
- Well-fitted respirators (e.g., N95, KN95 and KF94) provide effective protection from the particles in wildfire smoke. Three-layer cloth or disposable masks can offer moderate protection if they fit well. More information on masks for wildfire smoke can be found [here](#).

Legionella

The bacteria that cause Legionnaires disease can grow in stagnant water. Follow guidance provided by [WorkSafeBC](#) for proper maintenance of hot and cold water systems, including all cooling towers, piping, faucets, shower heads, ice machines and decorative water features.

Frequently Asked Questions

What kind of cooling devices should be used and what kinds should be avoided?

- Central air conditioning should be prioritized over portable air conditioning. If portable air conditioners must be used, they should only be used in facilities with mechanical ventilation to provide fresh air. Without mechanical ventilation, portable air conditioners will simply recirculate the air in a room with doors and windows closed, which can lead to higher risk of communicable disease transmission.
- Ceiling and wall fans that blow air downwards are better than floor, pedestal and table fans that blow across the breathing zone.
- Power breezers, blowers or air conditioning units with strong, horizontal airflow across the breathing zone should be avoided.
- Evaporative foggers and misters can provide effective cooling when the humidity is low.

What kind of features should be avoided?

- Spaces that are too small for many people to use without overcrowding.
- Spaces without adequate ventilation.
- Seating that is too close to fans or air conditioning units.
- Spaces with no running water for hand hygiene, drinking and evaporative cooling.