



EXTREME HEAT EVENTS, FOOD ESTABLISHMENTS AND PROTECTING HEALTH

STEPS FOR PREPARATION AND ACTION

VANCOUVER COASTAL HEALTH

JULY 6TH 2023





ACKNOWLEDGEMENTS

Vancouver Coastal Health (VCH) is committed to delivering exceptional care to 1.2 million people, including the First Nations, Métis and Inuit in our region, within the traditional territories of the Haítzaqv (Heiltsuk), Kitasoo-Xai'xais, St'at'imc (Lil'wat), x^wməθk^wəýəm (Musqueam), N'Quatqua, 'nu:həlk (Nuxalk), ʃə'mɑ:kʷəm (Samahquam), Shishá7lh (Sechelt), Skatin, Skw̓xwú7mesh (Squamish), ʔəʔamən (Tla'amin), səliilwətaʔt (Tsleil-Waututh), Wuikinuxv, and Xa'xtsa (Douglas).

The office where this work was carried out is located on the unceded territories of the Musqueam, Squamish, and Tsleil-Waututh Nations.

TABLE OF CONTENTS

| | |
|---|--------------------|
| 1. Introduction | 1 |
| 2. Heat risks | 4 |
| 3. Heat-related illness | 5 |
| 4. Restaurant recommendations | 6 |
| 5. Recommendations to protect staff | 10 |
| 6. Heat preparedness checklist | 12 |

INTRODUCTION

Climate change is increasing the frequency and severity of heat waves around the world. Exposure to high heat can lead to heat-related illness and death, as well as impact daily life. In 2021, an unprecedented extreme heat event in British Columbia led many restaurants to temporarily shut down, as well as changing their operating hours, staffing, and operations.

Staff working in hot kitchens and restaurant spaces can be at higher risk of heat-related illness, especially if ventilation and cooling are inadequate. For people vulnerable to heat impacts, risk of illness may increase at indoor temperatures over 26°C (79°F). This document provides recommendations for restaurant owners and operators that can help protect staff and customers against extreme heat.

CONTACT

Healthy Environments & Climate Change Team



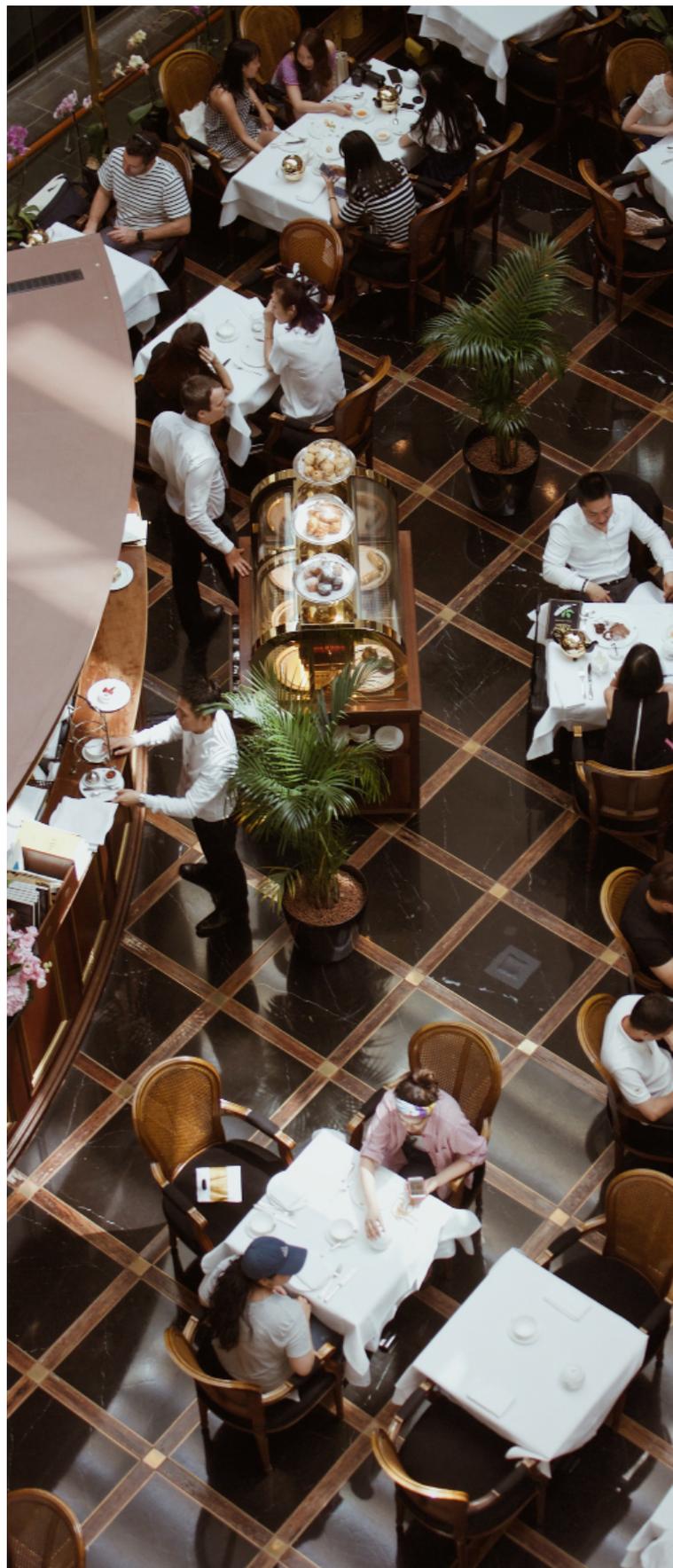
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HEAT RISKS

*Note that a larger number of risk factors can increase the risk of high temperatures and related health impacts.

Risks in the physical environment

- » Lack of mechanical cooling (e.g. air-conditioning or a heat pump)
- » Poor ventilation
- » Indoor exposure to other sources of radiant heat (e.g. ovens, furnaces, stoves)
- » High customer activity and occupancy (e.g. night clubs, dance floors, sports and games events)
- » High humidity
- » Higher floors of buildings
- » Large-sized windows
- » Single pane windows
- » Lack of shade on windows (e.g. awnings, blinds)
- » Lack of neighbourhood trees and other green features
- » Direct sun exposure

People potentially vulnerable to heat impacts

- » Older adults, aged 60 years or older
- » People who live alone
- » People with certain pre-existing health conditions (e.g. diabetes, heart disease, mental health conditions and respiratory disease)
- » People with mental illness such as schizophrenia, depression or anxiety
- » People who use substances, including alcohol
- » People with disabilities, including limited mobility
- » People who are marginally housed
- » People who work in hot environments
- » People who are pregnant
- » Infants and young children



HEAT-RELATED ILLNESS

Heat-related illness is an umbrella term for conditions caused by heat, such as heat rash, sunburn, heat cramps, heat exhaustion and, the most severe, heat stroke. Look for signs and symptoms of heat-related illness amongst staff and customers to keep each other safe.

Signs and symptoms of heat exhaustion include:

- » Heavy sweating
- » Dizziness
- » Nausea or vomiting
- » Rapid breathing and heartbeat
- » Headache
- » Difficulty concentrating
- » Muscle cramps
- » Extreme thirst
- » New skin rash
- » Dark urine & decreased urination
- » Body temperature over 38°C (100°F)

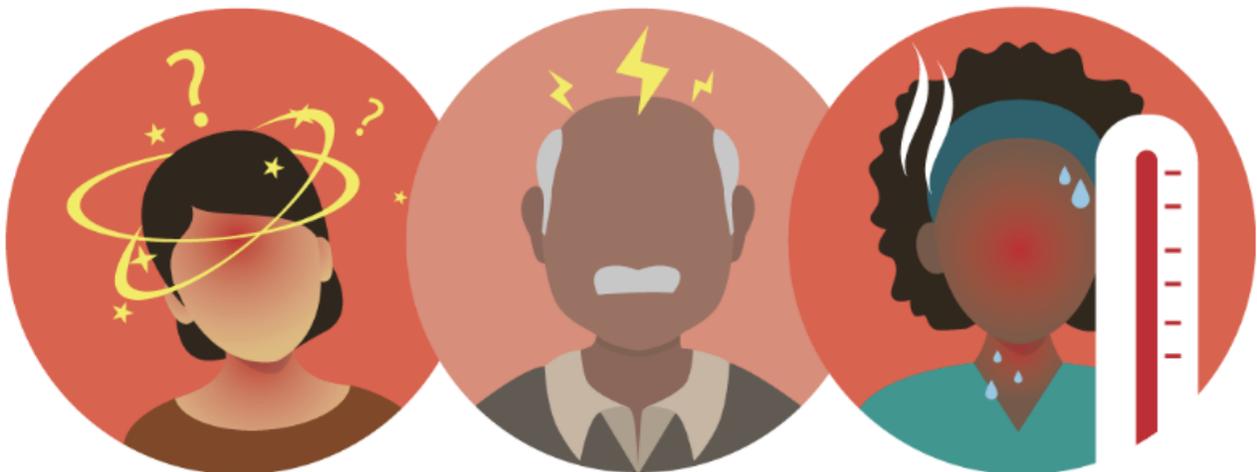
Anyone with symptoms of heat exhaustion should move to a cool space, drink water, and apply cool water to large areas of the skin (cool shower or wet their clothes). Take these steps immediately because heat exhaustion can quickly develop into heat stroke, which is a medical emergency.

Signs and symptoms of heat stroke include:

- » Body temperature over 39 °C (102°F)
- » Fainting or drowsy
- » Confusion
- » Lack of coordination
- » Very hot and red skin

HEAT STROKE IS A MEDICAL EMERGENCY.

Seek medical attention immediately at an emergency room or urgent care centre. Call 911 if necessary. While waiting for help, cool the person right away by moving them to a cool space if possible, and apply cool water to large areas of the skin (cool shower or wet their clothes).



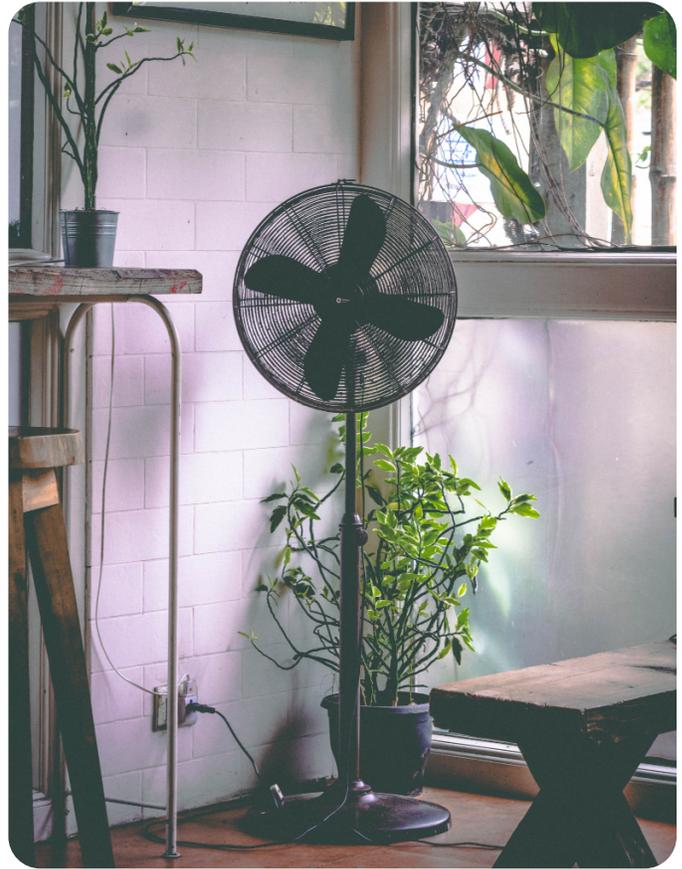
RESTAURANT RECOMMENDATIONS

What changes can restaurants make to reduce heat exposure?

HVAC (HEAT, VENTILATION, AND AIR-CONDITIONING)

The restaurant's HVAC system should be regularly inspected and maintained by a professional so that it is working properly before the summer months. Mechanical cooling (like air conditioning) and natural ventilation (like opening windows and doors) can both be helpful to cool down the indoor space. Prioritize taking action in closed spaces, windowless rooms, and areas with high occupancy by:

- » **Using central air conditioning and/or portable air conditioning units.**
- » **Replacing air filters.** Changing HVAC air filters regularly will prevent blockages and keep air flowing through the system. Follow manufacturer's instructions on how often you should replace the filters.
- » **Reducing humidity.** High humidity levels can be uncomfortable and affect a person's ability to cool down. If the restaurant feels humid, consider adding a dehumidification system to your HVAC system, using portable dehumidifiers and/or purchasing a hygrometer to monitor the indoor humidity. Ideally, humidity should be kept around 30-50%.



FANS

Fans can be used strategically to circulate and draw cooler air indoors, but they cannot lower core body temperatures. Fans are not recommended as the primary source of cooling.

- » **When to use a fan.** When the outdoor air is cooler than indoors, place fans in strategic locations (e.g. near windows and doors) to move cooler air indoors and warmer air outdoors.

COOL TIP

USE EXHAUST FANS, USUALLY LOCATED IN KITCHENS AND BATHROOMS, TO MOVE WARMER INDOOR AIR OUTSIDE.

LIMIT HEAT PRODUCTION IN THE KITCHEN

It is important to keep hot foods at or above 60°C, but hot-holding units (e.g. steamers, soup warmers) can also make the kitchen warmer if they are used during a heat wave.

- **Reduce hot-holding units.** Consider limiting the number of hot-holding units that are used during heat waves or temporarily remove food that need to be kept warm from the menu.
- **Reduce oven use.** Stove top and microwaves are good alternatives to ovens, as they give off less heat. Consider using the oven less or use it during the cooler parts of the day (e.g. mornings), allowing the kitchen to cool down during the hottest parts of the day.



OUTDOOR PATIOS

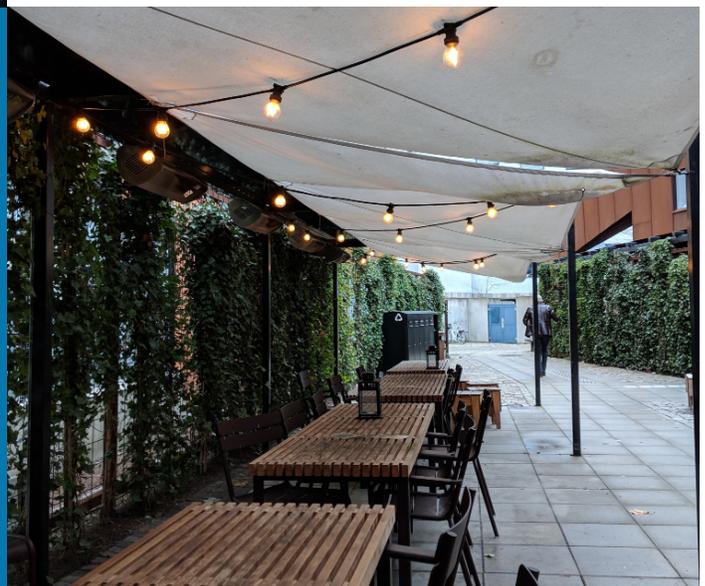
During the summer months, more customers may want to dine outside and may be exposed to high heat and sun exposure.

- **Create shade.** Install awnings, outdoor umbrellas, and outdoor shutters to create shade .
- **Make water available.** Offer more cool water to customers (e.g. filling a large jug with cold water on the table rather than relying on staff to fill glasses periodically).



WINDOWS, DOORS & FURNISHINGS

- » **Monitor indoor and outdoor temperatures.** If the outdoor temperature is significantly higher than indoor, consider keeping windows or doors closed to prevent the entry of hot air. If it is cooler outdoors, open windows or doors to allow warmer indoor air to escape.
- » **Install window shading.** Installing screens, curtains, and blinds can reduce the amount of sun (and heat) that gets in and warms up the space.
- » **Open the back door.** Consider opening the back door to allow natural ventilation into the space during cooler parts of the day. However, make sure to have a screen installed to prevent pests from entering. Consult with your local fire department to ensure that this practice is in compliance with the B.C. Fire Code and municipal fire bylaws.



RESTAURANT HOURS

By changing restaurant operating hours, staff can avoid working during the hottest parts of the day, which can be dangerous during a heat wave.

- » **Change operating hours.** Consider opening earlier and/or later to avoid the hottest parts of the day (generally 2 p.m. to 4 p.m. in B.C.)
- » **Take a break.** Consider taking a break after breakfast/brunch service and re-open for dinner service later in the evening.

ADMINISTRATION

During a heat wave, there are many administrative changes you can make to your business.

- » **Switch to take-out.** To reduce dishwasher use, which can produce heat and hot steam, switch to take-out containers and utensils.
- » **Limit customer seating.** Reduce the number of customers in the restaurant during the hotter parts of the day.
- » **Create a heatwave menu.** Temporarily alter the menu by removing as many hot-preparation food items from service as possible. Serve meals that do not need to be cooked in an oven or stove. Some examples include summer salads, sandwiches, and cold soups.



COOL SPACES

Having a designated space within your restaurant that your staff can use to cool off.

- » **Identify and/or create a cool space.** Staff break rooms and office spaces can be used as “cool spaces”. If the restaurant does not have central air conditioning, consider using portable air conditioning units to cool the space. Close shutters and blinds to prevent sun exposure.

COOL TIP

VULNERABLE INDIVIDUALS MAY WANT TO SEEK RELIEF FROM THE HEAT BY SPENDING TIME IN A COOL INDOOR ENVIRONMENT. CONSIDER TAKING A COMPASSIONATE APPROACH FOR PEOPLE, INCLUDING NON-PAYING CUSTOMERS, WHO WANT TO SEEK RELIEF FROM THE HEAT. HEALTH DATA SHOWS THAT TAKING A BREAK FROM THE HEAT CAN PREVENT HEAT-RELATED ILLNESS AND MORTALITY.

KEEPING FOOD COLD

Warmer temperatures can make your refrigerators and freezers work harder to keep food cold.

- » **Check temperature of fridges and freezers at least twice daily to make sure they are functioning properly.** Keep fridges 4°C (40°F) or less, and freezers 18°C (0°F) or less.
- » **Maintain seals and gaskets.** Air leaks from broken seals can prevent your fridge or freezer from keeping food cold. Inspect units regularly and replace seals and gaskets as needed.
- » **Avoid using exposed food inserts when possible.** Potentially hazardous foods that are held in exposed food inserts can be left in dangerous temperatures that make them unsafe. Consider moving any potentially hazardous food to a fridge or freezer with a secure door, covering the individual food inserts with a lid, and reducing the amount of times the prep table cover is open.
- » **Clean equipment regularly.** Fans and tubing of fridges and freezers should be regularly cleaned to prevent dust, debris, and ice build-up.
- » **Keep fridge and freezer doors closed when possible.** Leaving the doors open for long periods of time allows warm air to enter and overwork the units. Plan strategically and grab more food in one trip rather than opening the fridge or freezer multiple times.
- » **Increase air circulation in and around fridges and freezers.** Decluttering and removing dust and debris in and around the fridge or freezer will allow air to circulate better. Ensure there is space surrounding your fridge or freezer so heat from the condenser is dispersed efficiently.
- » **Do not overload fridges/freezers.** Overstocking the units can overwork them and lead to malfunction.
- » **Keep food covered.** Cover all food items before putting them into the fridge or freezer. Moisture from uncovered foods can overwork the unit's compressor.
- » **Consider positioning fans around the fridge to dissipate heat more effectively.**

COOL TIP

IF YOU'RE UNSURE IF YOUR SEALS NEED REPLACING, HOLD A PIECE OF PAPER ON THE DOOR FRAME AND CLOSE IT. IF YOU CAN PULL IT OUT EASILY, THE SEAL/GASKET MAY NEED TO BE REPLACED.



EDUCATION

- » **Post signage.** Post heat signs and information for staff and customers.
- » **Educate staff.** Staff should know ways to keep cool in the heat, the signs/symptoms of heat-related illness, and know when to call 9-1-1 when it is an emergency. Hold staff meetings before the heat season so staff are aware of what to do and who to contact.
- » **Keep up-to-date and inform staff and customers.** Check the latest heat alert information and weather forecast, and keep customers up to date on operating hours, menu changes, and any changes via social media platforms, websites, email, etc.



RECOMMENDATIONS TO PROTECT STAFF

What actions can you take to protect staff against extreme heat?

CLOTHING, ACCESSORIES, AND EQUIPMENT

The type of clothing worn during heat waves can have an impact on a person's ability to cool off.

- » **Moisten your clothes.** During heat waves, allow staff to moisten and/or mist their clothes to cool themselves off.
- » **Prepare a cool kit.** Your cool kit can include bottled water, electrolytes, ice packs/gel compresses, sunscreen, misting bottles, thermometers, and towels.
- » **Wear light, loose clothing and avoid thick, heavy clothing.** Opt for breathable fabrics like cotton or linen, and short-sleeved clothing. Avoid wearing thick waterproof aprons and unbreathable fabrics (e.g. polyester, nylon, and acrylic). Consider switching to hairnets/hairbands instead of fitted hats. If staff are working outside, consider providing sunscreen, hats and long-sleeve breathable shirts to protect them from sun exposure. Remove unnecessary clothing (i.e. aprons, hats) during breaks.

COOL TIP

TEMPORARILY CHANGING THE DRESS CODE POLICY DURING HEAT WAVES TO ACCOMMODATE LIGHTER AND LOOSER CLOTHING CAN HELP STAFF COOL OFF.

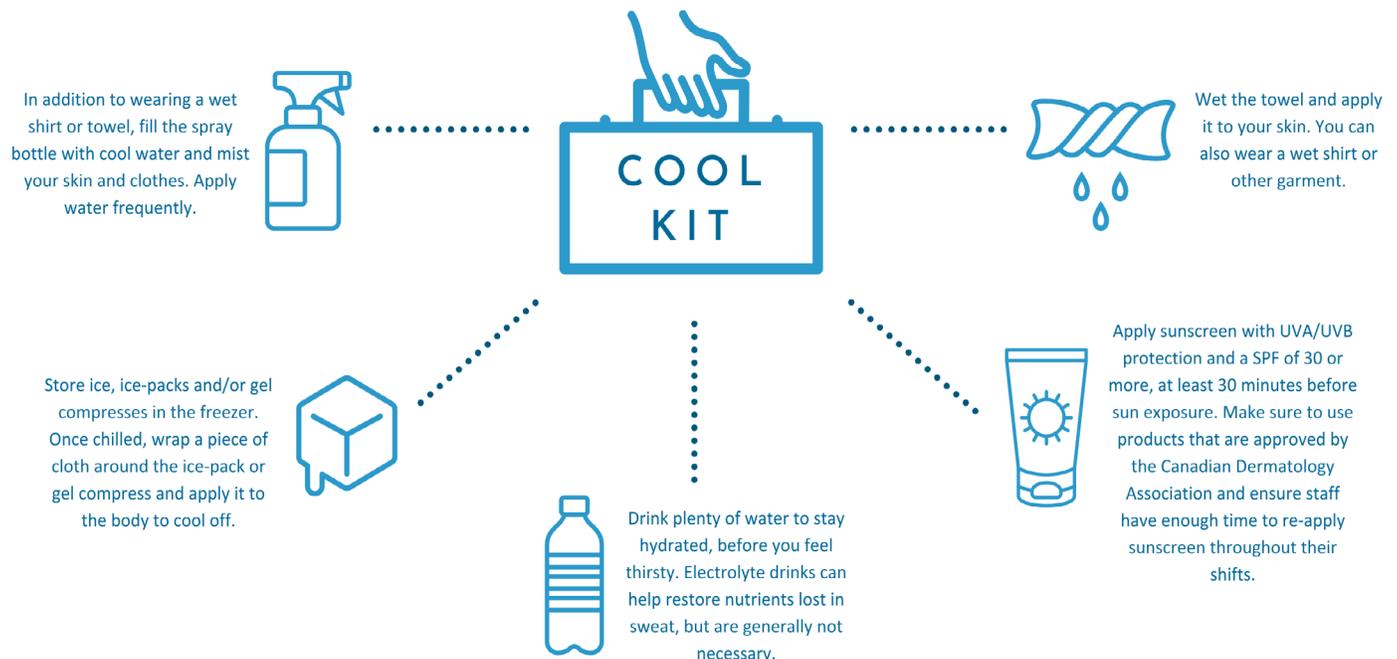


FIGURE 1. EXAMPLE OF A COOL KIT

STAFF BREAKS

By making sure that your staff are physically resting and cooling off on their breaks, you are helping them reduce their risk of heat-related illness.

- » **Drink water and eat regularly.** Staff should have access to cool water, meals, and snacks throughout the day. Drink plenty of water, regardless of whether you feel thirsty. Avoid sugary and alcoholic drinks as they may cause dehydration.
- » **Rest.** Take time to physically rest and avoid over-exertion. Use this time to reapply sunscreen if they are working outdoors.
- » **Find a cool space.** Move to a cooler environment with shade or air conditioning. This could be the staff break room, a nearby park with shade, air-conditioned mall, etc...



COOL TIP

WORKSAFE BC HAS NUMEROUS GUIDANCE RESOURCES ON PREVENTING HEAT STRESS IN THE WORKPLACE. FIND THEM HERE: [HTTPS://WWW.WORKSAFEBC.COM/EN/HEALTH-SAFETY/HAZARDS-EXPOSURES/HEAT-STRESS](https://www.worksafebc.com/en/health-safety/HAZARDS-EXPOSURES/HEAT-STRESS)

STAFF SCHEDULING AND DUTIES

Certain populations are at higher risk of heat-related illness and may require additional considerations. Changing work schedules and duties can protect staff from extreme heat.

- » **Rotate staff and duties.** To make sure staff are not working in a hot area (indoors or outdoors) for long periods of time, consider rotating job duties and/or work stations where exertion and exposure to high heat are expected. Schedule more physically demanding or flexible tasks for cooler parts of the day or when hot equipment is not running.
- » **Look out for each other.** Staff can check up on each another to make sure they are not experiencing signs/symptoms of heat-related illness. Keep in mind that workers should not work alone in conditions where heat-related illness is possible.
- » **Acclimate new staff.** Newer employees can be at higher risk for heat related illness. Slowly increase exposure to the hot environment and teach and role model preventative steps to stay cool for new staff.

Heat Preparedness Checklist

| Area | Task | Person Responsible | Notes | Completed Y/N/NA |
|-------------------|---|--------------------|-------|------------------|
| General | Is the HVAC system inspected and maintained at least once annually? | | | |
| | Are air filters inspected and replaced according to manufacturer's recommendations (or every 90 days in absence of guidance)? | | | |
| | Is indoor humidity between 30-50%? | | | |
| | Are there portable A/C units available for use? | | | |
| | Are fans used strategically to bring cooler air indoors and warmer air outdoors? | | | |
| | Are windows/doors shut during the hottest parts of the day and open during the evenings to let cool air in? | | | |
| Kitchen | Are fridge/freezer seals and gaskets working properly? | | | |
| | Are fridges/freezers operating at $\leq 4^{\circ}\text{C}$ or $\leq -18^{\circ}\text{C}$? | | | |
| | Is oven, stove, and hot-holding unit usage reduced? | | | |
| | Are fridge/freezer temperatures monitored at least twice on a daily basis? | | | |
| Operations | Are operating hours altered to address hotter parts of the day? | | | |
| | Is the restaurant using a heatwave menu during heat warnings? | | | |
| | Are updates being posted to alert customers to new changes? | | | |
| | Are there emergency measures in place in case there is a power outage? | | | |
| Patio | Is there adequate shade on the outdoor patio? | | | |
| Staff | Are staff trained to look for signs of heat-related illness? | | | |
| | Are staff checking up on each other? | | | |
| | Are work duties and stations being rotated so staff are not exposed to heat for long periods of time? | | | |
| | Are staff taking breaks and eating/hydrating regularly? | | | |
| | Is there a cool space that can be used for breaks? | | | |
| | Are staff up to date on the latest heat alert information and weather forecast? | | | |
| | Are there cool kits available for staff use? | | | |
| | Are staff dressed appropriately for the heat? | | | |
| Other | | | | |
| | | | | |
| | | | | |