



Extreme Cold Weather Response Workshop

Winter 2022-2023

Agenda:

- Territorial Acknowledgement
- About REACH
- What extreme cold weather looks like in Vancouver.
- What are the possible health risks?
- How to prevent cold related illnesses by staying warm and dry (and when to call for help!)
- Exercises to improve balance and prevent falls



Territorial Acknowledgement

I would like to acknowledge that the area we meet or call in from today is situated on traditional, ancestral and unceded and stolen territory traditional territories of the x^wməθk^wəy̓əm (Musqueam), Sḵw̓x̓wú7mesh (Squamish), and səlilwətał (Tsleil-Waututh) Nations.

All indigenous people in northern climates including Canadian First Nations dress in layers to keep the cold at bay. These are often layers of skins and furs, where the furs are especially critical because they impart the same protection to humans that they do to the regional animals they're taken from.





Pharmacy

Dental

Urgent & Primary
Care Centre

Medical

Health Equity
and Engagement

Vancouver Winters....

Average of usually brings more rain than snow



Staying Safe and Healthy During Winter Weather

- Snow, ice, and freezing temperatures may increase your risk of illness or injury. Take steps to protect your health during winter conditions by staying warm and dry!
- Winter conditions can be dangerous and may increase risks of illness when outdoors, including hypothermia and frostbite, or risks of serious injury due to slipping or falling.



What can we do?

- Understand the risks
- Make a plan to prepare and stay safe
 - Have what you need to get by
 - Check with primary care provider about any health concerns
 - Exercise to improve your balance and to avoid winter blues
 - Eat foods to keep you warm
- Get to know your neighbours and check in with your neighbours!
- Listen to local news and weather reports for information on changing weather conditions
 - Download the WeatherCAN app to stay up to date on weather alerts



Who is most vulnerable to the health effects of winter weather?



Who is most vulnerable to the effects of extreme cold?

The cold weather can negatively affect everyone! But people at higher risk during winter weather are:

- Older adults (65 years or older) and infants (under 1 year)
- People with disabilities
- People with pre-existing illnesses affected blood vessels such as diabetes or taking certain medications such as beta-blockers
- People experiencing homelessness
- Outdoor workers
- People living in housing with poor insulation, no heat or power

3 Common Types of Cold Weather Related Illnesses

1. Hypothermia

2. Frostbite

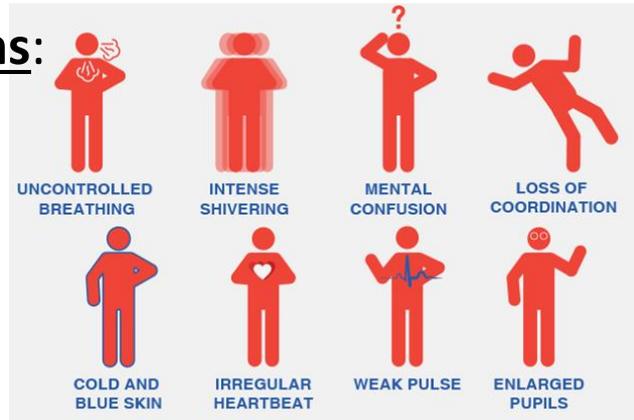
3. Trench foot



What is Hypothermia?

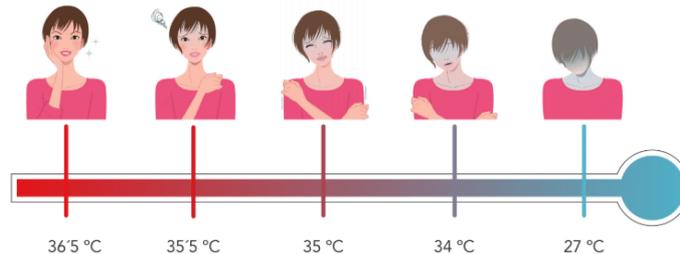
- **Hypothermia** is caused by prolonged exposures to very cold temperatures. When exposed to cold temperatures, your body loses heat faster than it's produced (this is very dangerous!). Long exposures can cause body to use up all stored energy, leading to lower body temperature.
 - Most common at very cold temperatures, can also happen at cool temperatures (above 40°F) if a person becomes chilled from rain, sweat, or submersion in cold water.

Symptoms:



Stages of Hypothermia

Stage	Core Body Temperature	Symptoms
Mild Hypothermia (1 st stage)	35°-33°	Shivering, reduced circulation
Moderate Hypothermia (2 nd stage)	32.9° – 27°	Slow, weak pulse, slowed breathing, lack of co-ordination, irritability, confusion and sleepy behavior
Severe Hypothermia (advanced stage)	<26.9°	Slow, weak or absent respiration and pulse



Prevention & Treatment

If you notice you or someone else is getting some early symptoms of hypothermia:

Restore Warmth Slow



- Find shelter
- If mild stage, keep muscles moving and don't fight shivering, your body is trying to increase the temperature
 - Drink warm, sweet liquids. Avoid caffeine or alcohol
- Remove wet clothing and dry off, if needed.
- Warm trunk first, not hands and feet, warming extremities first can cause shock
- Warm the person by wrapping them in blankets or putting dry clothing or body contact with trusted person
- Do not handle the person roughly or immerse them in warm water, can cause heart arrhythmia



Begin CPR, if Necessary, while Warming Person

- Hypothermia causes respiratory rates to plunge, and a pulse might be difficult to detect.

Keep Body Temperature Up

- Once the body temperature begins to rise, keep the person dry and wrapped in a warm blanket, including the head and neck

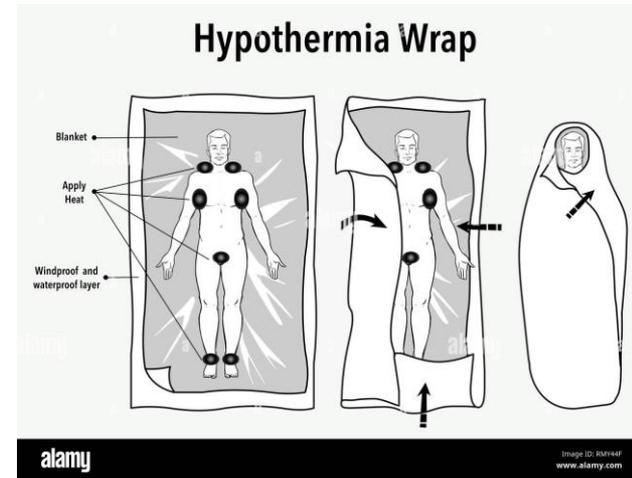


****If someone is cold, has stopped shivering or is no longer alert and responsive, please call 9-1-1 or visit your nearest UPCO or Emergency Services as soon as possible ****



Emergency Sheet (Mylar Blanket)

- **Mylar blankets can reflect up to 90% of body heat back to the wearer**
- Prevents heat loss from radiation, radiant heat hits the shiny surface of Mylar, it will bounce off to redirect heat back *towards* the source
- Waterproof to prevent health loss from evaporation
- Windproof to prevent heat from being carried away quickly by the wind (from convection heat loss)
- How to use for warmth:
 - wrap yourself in a wool or fleece blanket. Put the Mylar blanket *outside* of these blankets. For more protection such as to create a hypothermia wrap, use duct tape to sandwich a Mylar blanket between two wool blankets
- Can also be used for: making a shelter, lining boots and mittens, fire protector, keeping car cool in summer,
- **Dry before using & NEVER put a Mylar blanket right next to your skin**



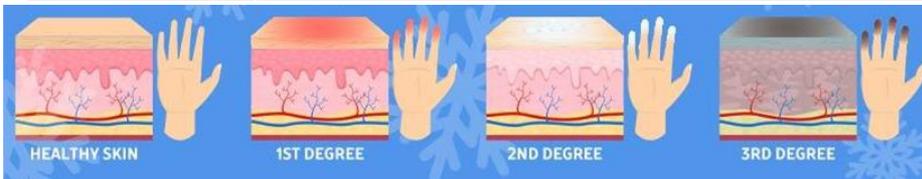
What is Frostbite?

- When temperatures drop below 0°C (32°F), blood vessels close to the skin constrict to protect the core body temperature. When your body is exposed to the cold for a long period of time, blood flow to your hands, feet, nose, and ears can be severely restricted. The combination of poor circulation and extreme cold can lead to **frostbite**.
- **Common areas** for frostbite are body parts furthest from the heart such as:
 - Ears
 - Nose
 - Hands
 - Feet



Frostbite Signs & Treatment

	Symptoms	Treatment
Mild Frostbite (Frostnip)	<ul style="list-style-type: none"> • Yellowish or white skin that is still soft to the touch • Skin may turn red when in the warming process 	<ul style="list-style-type: none"> • <u>Passive warming</u>: Move to a warm area/shelter, wrap self with dry blankets, or reheat your body by skin-to-skin contact with a trusted person • <u>Active warming</u>: Includes passive warming strategy, slowly add heat to the frost bitten area using water that is just slightly warmer than body temperature. Do not rub, massage, or shake any injured skin, can damage further.
Severe Frostbite	<ul style="list-style-type: none"> • Your skin may be so cold it loses feeling • There may be blisters or skin may break • Skin now feels firm or waxy 	<p>Call 9-1-1 immediately while treating the person with passive and active warming</p>



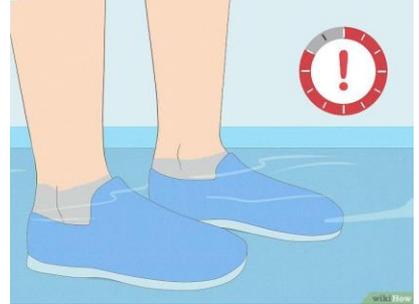
Mild

Severe



What is Trench Foot?

- **Trench foot** is caused by prolonged exposure to a cold temperature, usually above freezing and damp and sometimes in unsanitary conditions
 - Causes skin and tissue breakdown, increasing the risk of infection and may result in morbidity and mortality
 - Most common in wet conditions but can happen in dry climates if the temperature stays between -1 and 4 °C
 - Can develop in little as 12 hours in some circumstances
- **Symptoms:**
 - Red or discoloured skin which in time skin turns blue, green or black
 - Numbness
 - Tingling pain
 - Swelling
 - Blisters
- It can be quite **painful** - **but it can be prevented and treated!**





Trench Foot



Prevention

- Air-dry and elevate feet, and change wet shoes and socks for dry ones
- Avoid standing in cold/cool water for long periods, take frequent breaks if your job requires standing in water
- Sock made of cotton and wool, are better than artificial materials
- Use polypropylene sock liners, draws moisture away from feet or use the **classic plastic bag trick!**
- Apply Vaseline or talcum powder to feet to repel moisture and help insulate feet from the cold

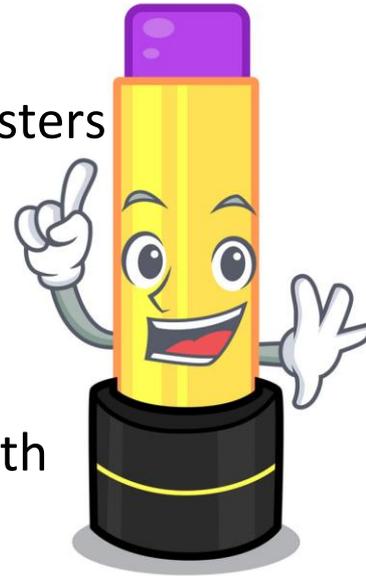
Treatment

1. Keep feet dry & clean!
2. Warm feet for 5 to 10 minutes in warm water or apply warm packs
3. Put on loose, breathable, socks made of cotton, and use extra blanket at night to cover feet
4. Take medication to combat pain and swelling, such as Advil, Motrin, and Aleve

Severe cases of trench foot, where feet may look infected or developed blisters, visit your nearest UPCC or Emergency Services as soon as possible!

Lip balm (is the balm!)

- Prevents chapped lips and protects other parts of your body, like the nose or hands, from the effects of wind and freezing temperatures and decrease the chances of windburn, frostbite or heat loss
- Moisturize skin and keep it from drying
- Place on skins surface to form a protective layer and prevent blisters
 - If part of your skin is rubbing against another material (like your toe or heel against your footwear), lip balm applied to the area may prevent the blister from growing!
- Prevent eyewear from fogging up in humid or wet conditions by dabbing small amount on the lens and buff it with a clean cloth



Now most importantly...

**Let's talk about how to avoid
cold weather related health
emergencies!**



The most important way to avoid cold weather related illness is to:

1. Stay warm
2. Stay dry
3. Stay safe!

Now... how do we do that? 😊



Stay warm!



Layer up your clothes!

Wear clothes in layers

- **Inner Layer** (closest to the skin) - should have "wicking" properties to move any moisture away from the skin
 - Fabric such as silk, lycra, nylon, and polyester help repel moisture
 - Avoid cotton as they tend to absorb sweat which will make you feel cold
- **Middle Layer** - should be the insulating layer to prevent loss of your body heat while keeping the cold outside air away
 - Flannel, fleece, or wool work best but any t-shirt or blouse will work as well!
- **Outer Layer** - should be the "windbreaking" layer to reduce the chances of cold air reaching the insulating layer
 - Can be a waterproof jacket, alternatively can use a plastic or a garbage bag

Long-sleeve shirt



Sweatshirt or Fleece



Pants



Shell Jacket



REACH
Community Health Centre

Other tips to dress for the cold:



- Wear a hat, gloves or mittens to prevent heat loss and protect ears and fingers from frostbite



Wear a neck warmer to protect the chin, lips and cheeks - all are extremely susceptible to cold weather injuries



- Wear waterproof winter boots with room for an extra layer of socks
- Drink warm fluids and avoid drinking alcohol and caffeinated drinks. Alcohol and caffeine can decrease body's heat-producing ability



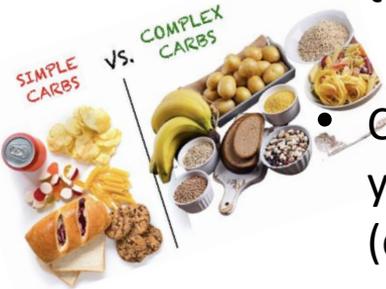
- If you start to sweat, cool off a little. If your clothing gets wet, change into dry clothes as soon as possible. Wet clothes will also encourage other cold weather injuries



Nutritious Foods to Keep You Warm In Cold Weather

When the temperature drops and cold weather sets in, fuel your body with food that can help raise your body temperature and make you feel warm

- Fibre-rich foods (broccoli, cabbage, kale, banana) take longer to digest and can help to raise your body temperature!
- Complex carbohydrates (whole grains, oats, potatoes) keep you fuller and warmer longer than simple carbohydrates (chocolate bars, biscuits)
- Iron rich foods (spinach, black beans, lentils) help carry oxygen to areas that lose heat fast (hands, feet, nose)



Stay dry!



The Classic Plastic Bag Trick

1. Put on a pair of socks on your feet as usual
2. Slip plastic bag over the socks
3. Add a 2nd pair of socks over top of the plastic bag
4. Put on shoes or boots
5. (optional) tuck in the plastic bag so they don't stick out – or simply rock them in style!

This creates a waterproof layer between the two pairs of socks. Any moisture will be contained within this layer, and your sweaty feet will just be warm as ever. The outside sock will stay dry, and you will have a comfortable bonus warm air cushion around your feet!

Can also use a mylar sheet!



If it is very cold and windy, try to find shelter!

- Warming centers
- Shelters
- Alcoves
- Visit community centres, libraries, or malls during the day



To find your nearest available shelter, you can call 2-1-1 or check out:

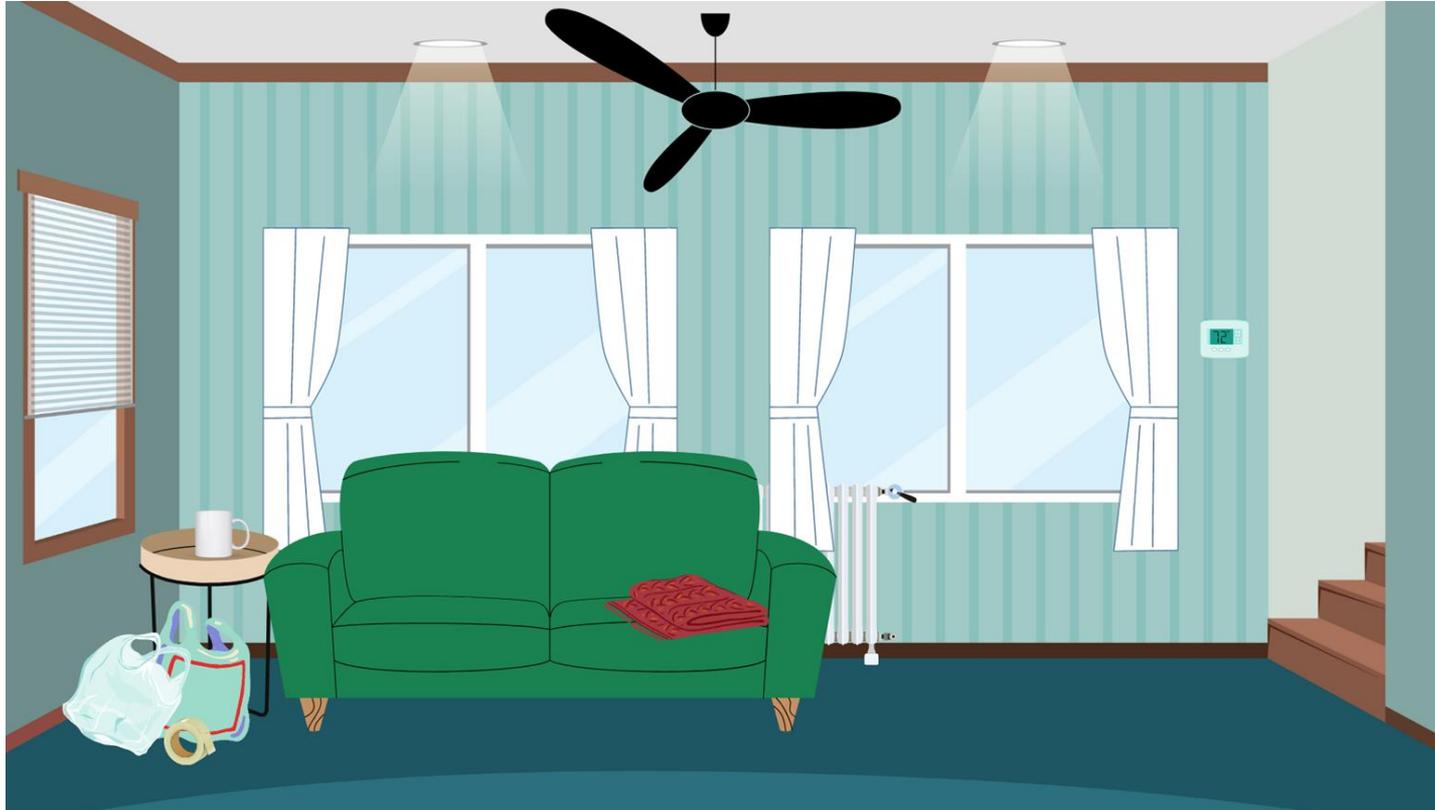
- <https://vancouver.ca/people-programs/shelters.aspx>
- <http://shelters.bc211.ca/bc211shelters>
- <https://vancouver.ca/images/web/shelters/vancouver-ewr.pdf>



Stay safe!

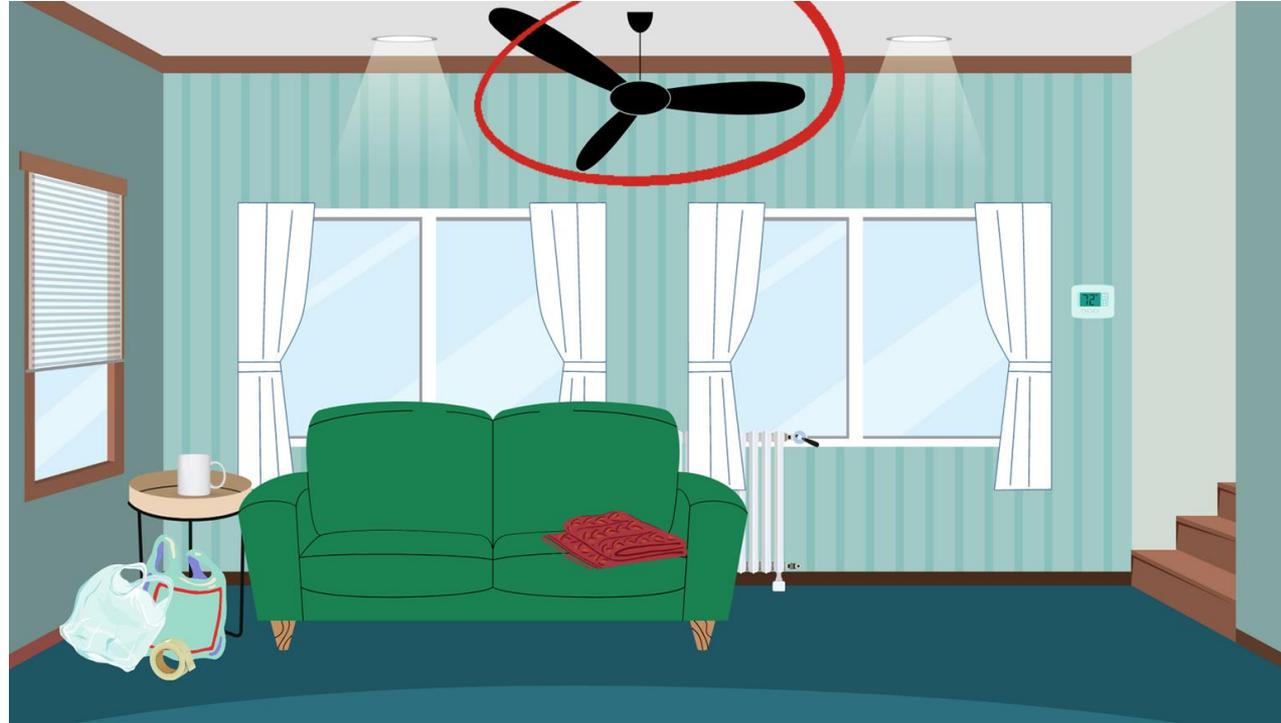


How can we “winter-ize” our homes?



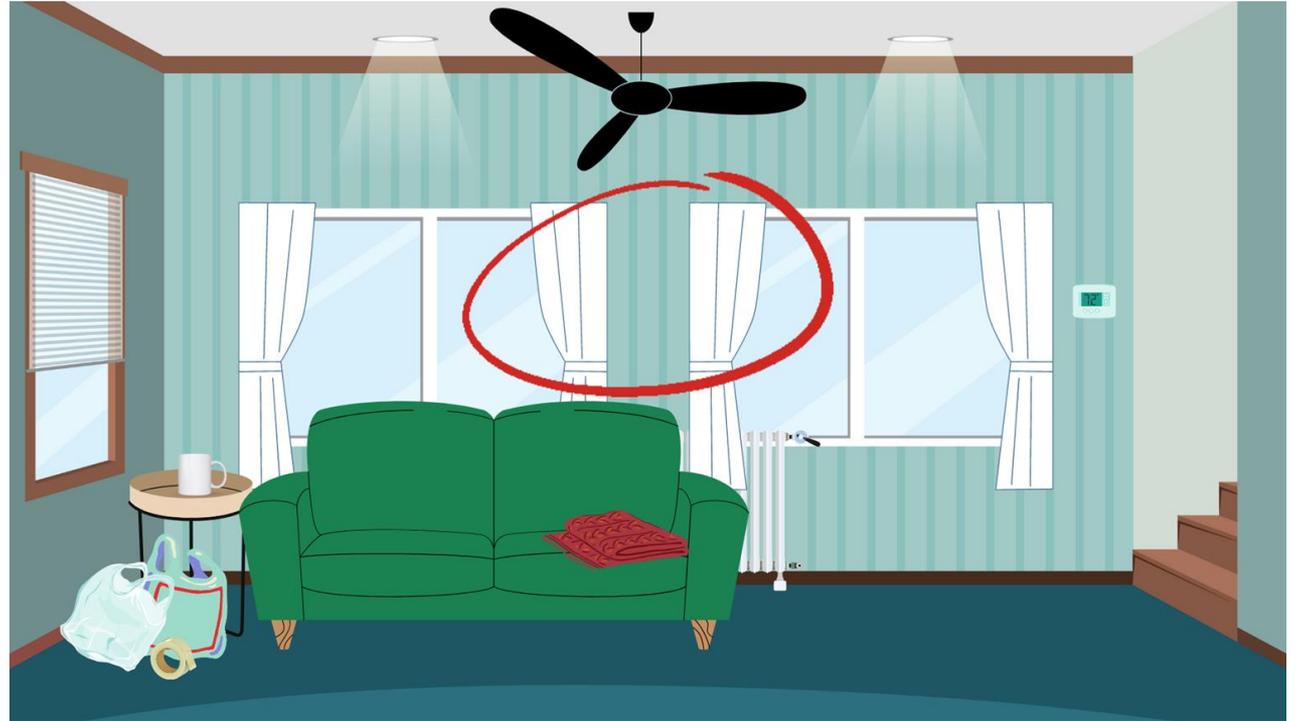
Reverse your ceiling fans!

Reversing your ceiling fans in a clockwise direction will **push warm air downwards** and help to circulate air accordingly.

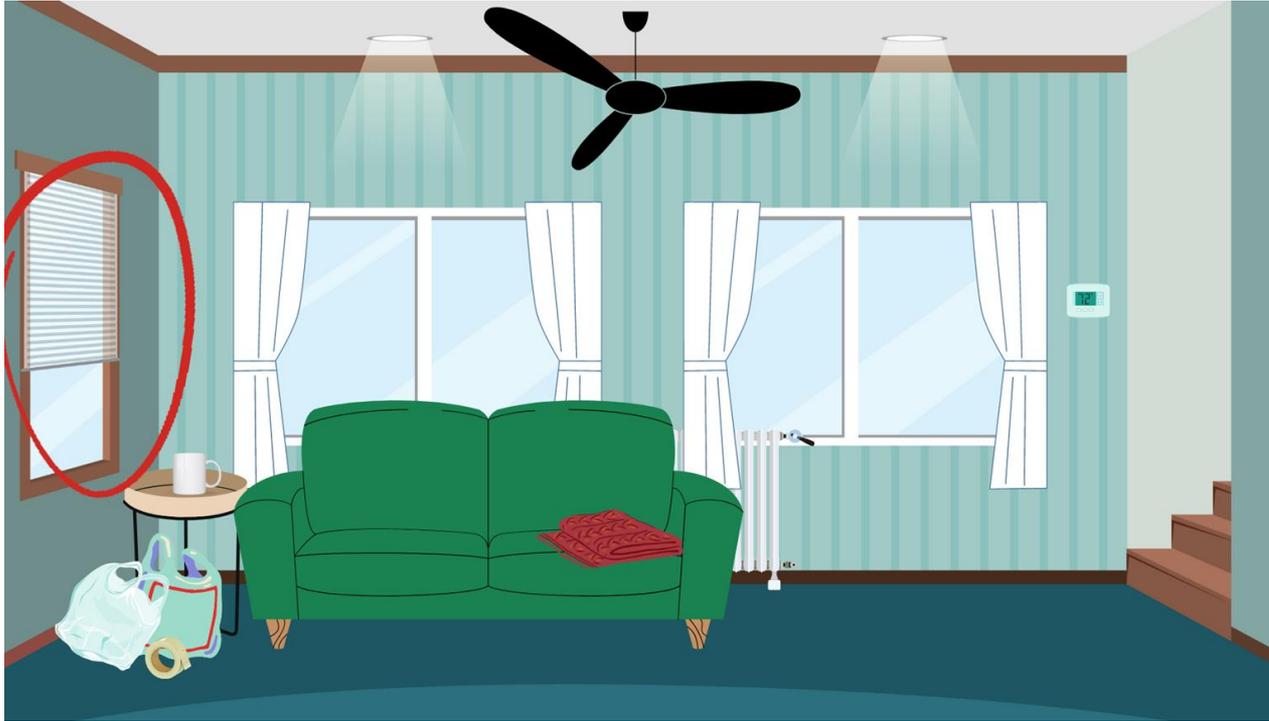


Use your curtains!

Open curtains and let the sunlight in during the day to make use of this free heat from the sun! When it gets dark, shut the curtains, which act as another layer of insulation and keep warmth in your rooms.



Check for leaks or gaps!



Check around your windows to see if there are any leaks or gaps. You can either tape them closed for now or use the appropriate sealing method such as chalk.

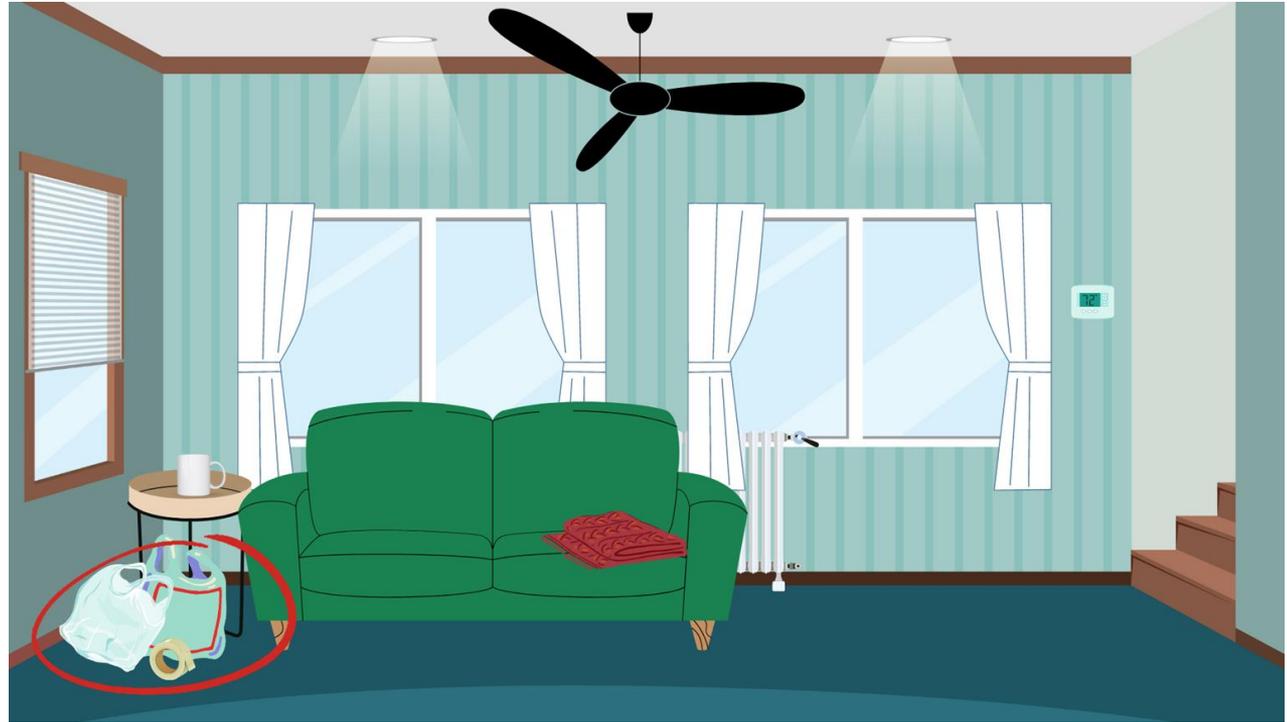


Apply window coverings!

Adding window layers can help prevent heat loss. Consider covering windows with plastic or more designer-savvy kits if aesthetic appeal is important to you.

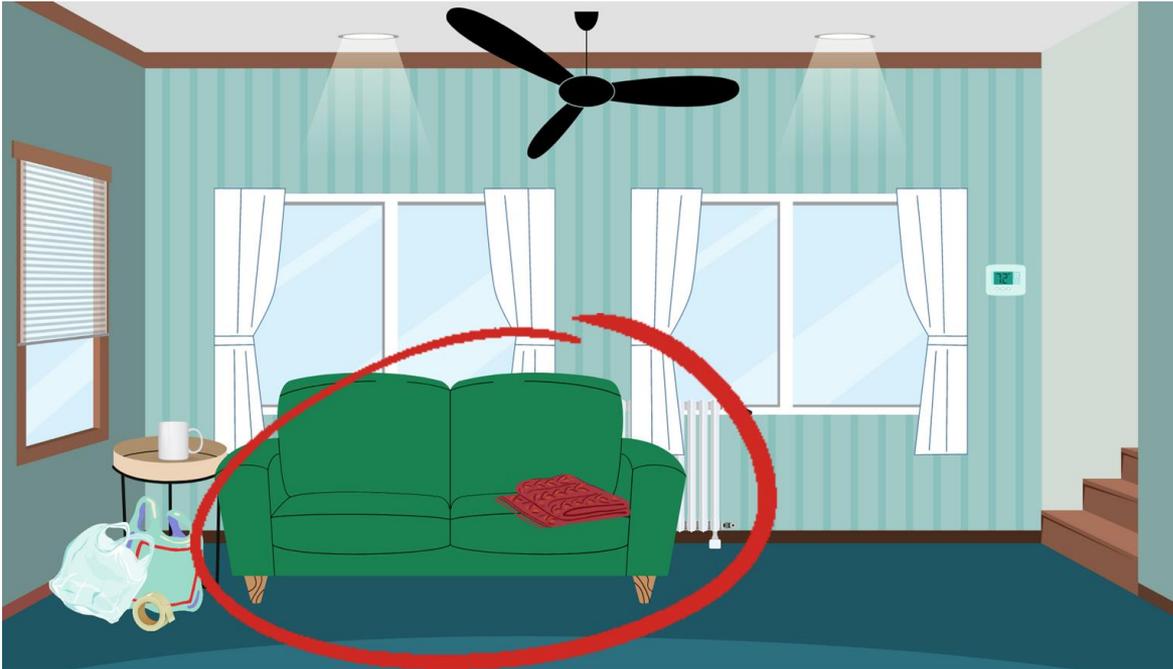
Insulator kits are found at home department stores.

Pro tip: bubble wrap may look a little funny but it actually works the best!!!



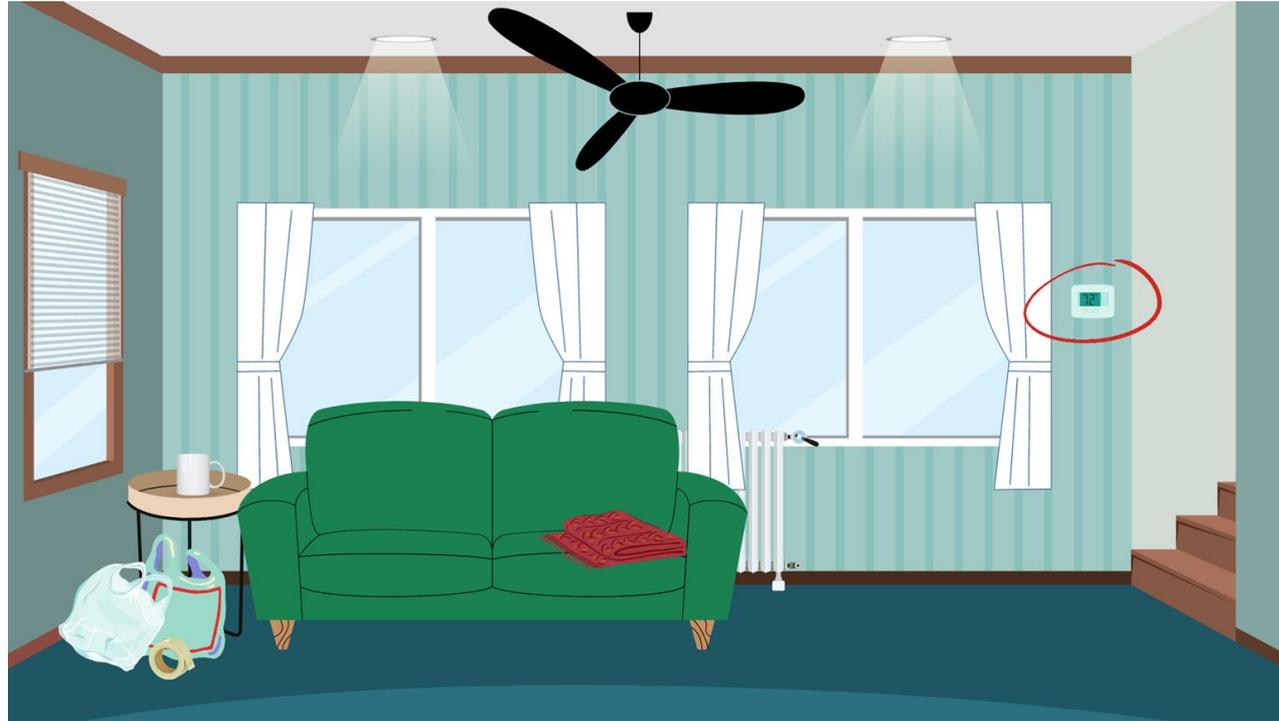
Move anything that block your radiator!

Many people like to have their sofa in front of their radiator because it keeps the radiator out of sight and may keep your couch nice and toasty. But this can actually be dangerous if the radiator gets too hot (fire risk!) and inefficient as the couch is absorbing heat that could be warming you and your home! By moving it away from the radiator, hot air can circulate freely.

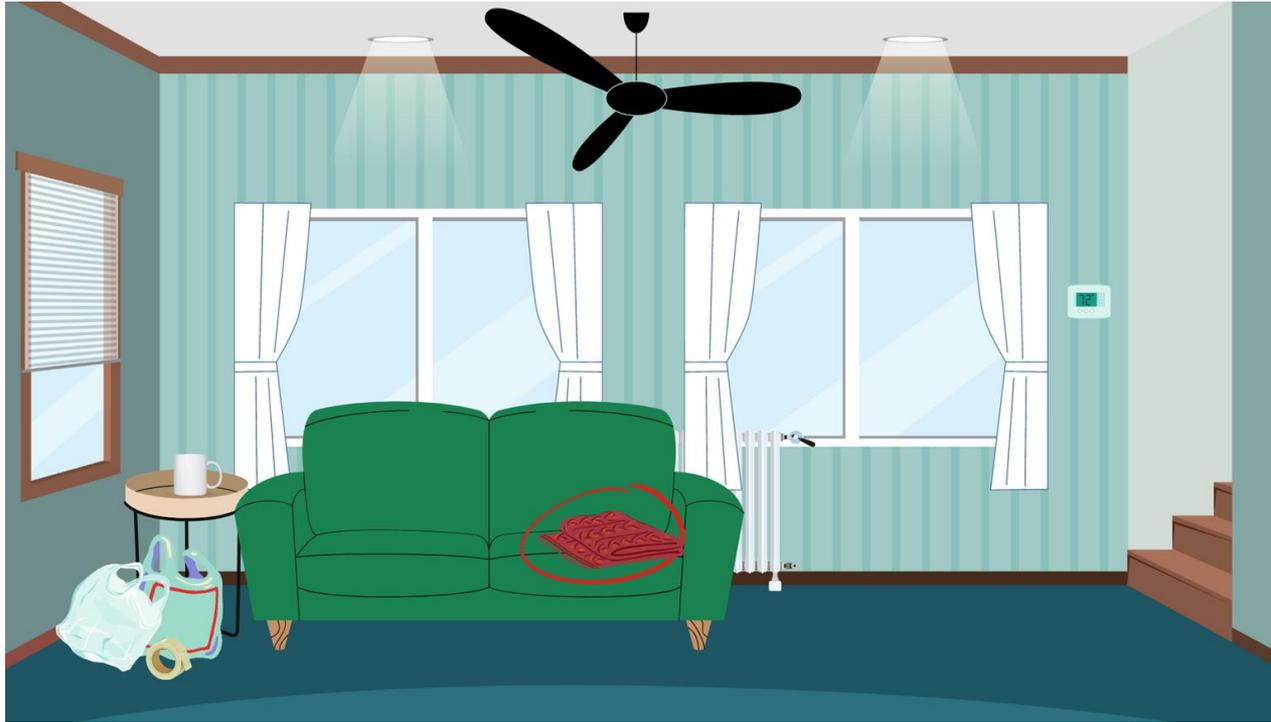


Monitor the temperature with your thermostat

A thermostat shows what temperature your home is but it can also help you regulate the temperature! Research shows that by having it at a consistent temperature (e.g. 20°C) is more energy efficient than turning it on to a high temperature (e.g. 25°C) and off once the room is warm.



Lay out your blankets and carpets!

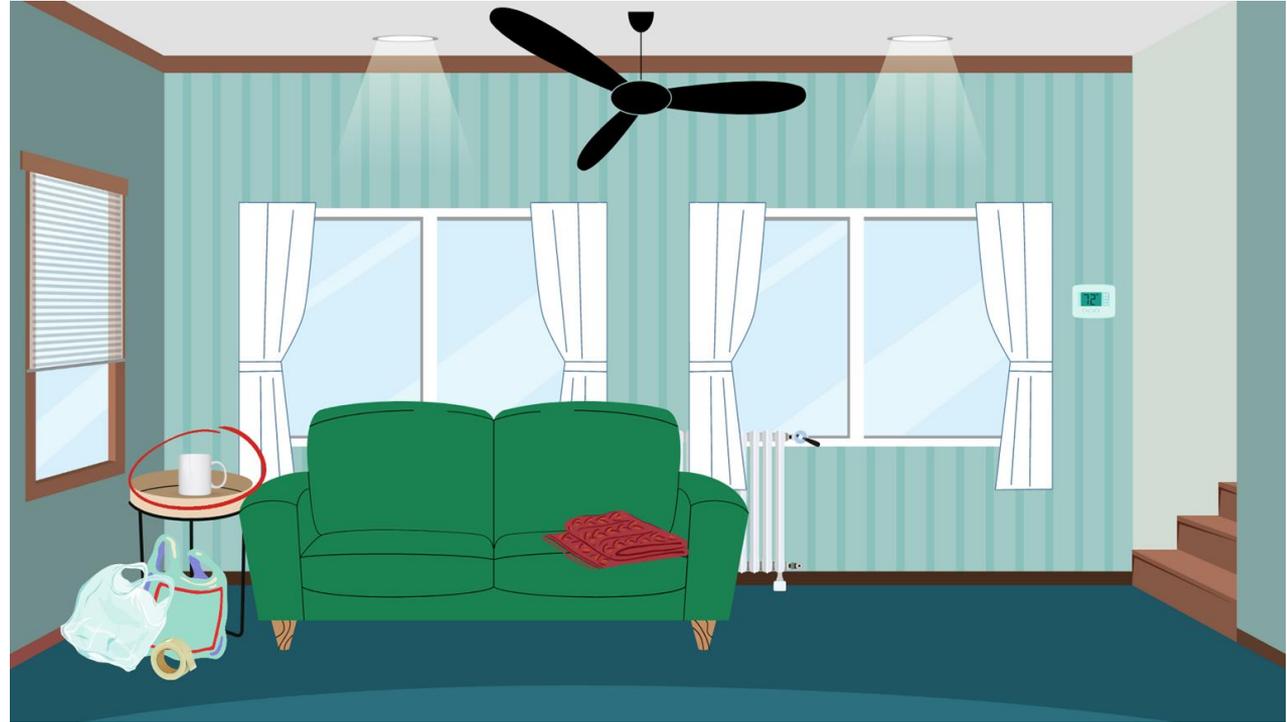


Research shows that by having carpets on your floors, it will help trap in some of the heat and prevent heat from escaping through the floor as quickly!



Drink warm liquids

Drink plenty of warm fluids to help your body stay warm and hydrated, avoid caffeine and alcohol.



Reminder:

DO NOT use your oven
to warm up your home!
This is very dangerous.



**Aside from hypothermia and frostbite...
another safety concern related to winter weather is...**



Falls!



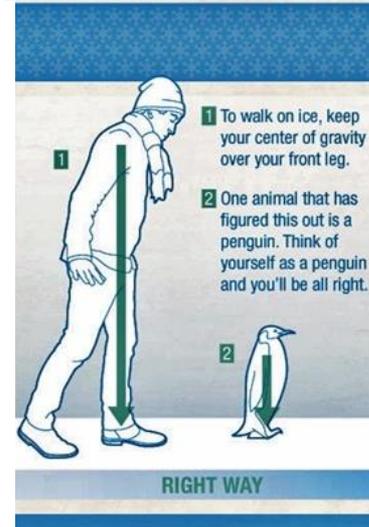
Top tips to prevent falls in winter:

1. Stay physically active throughout the week to maintain your balance and strength
2. Stand up slowly – don't rush!
3. Stay on designated walkways outdoors
4. Wear shoes or boots meant for traction
5. Use special care when entering/exiting cars; **practice seated squats!**
6. When you walk outside, **walk like a penguin!**
7. Use your assistive devices if you have been recommended to use one by your healthcare provider
8. Aside from your assistive device, keep your hands free! – use a backpack or fanny bag to hold your items instead
9. Avoid or limit your alcohol intake
10. Make sure you are well rested!



Be Safe On Ice

Walk Like a Penguin!



Learning to walk like a penguin is **one of the most effective ways to avoid slips, trips and falls on ice!**

- Point your feet outward
- Keep the center of gravity over your front foot!
- Relax your knees, walk slowly, take short steps or shuffle for stability
- Extend your arms to your side

**Let's brainstorm some ways
you can exercise to prevent
falls!**



Regular exercise makes you stronger, improves your balance and helps prevent falls!

- Ask your healthcare provider or call 811 and speak to an exercise professional to find the best type of exercise program for you
- Do at least 30 minutes of activity every day, you can break this into 3 sessions that last 10 minutes
- Choose activities that you enjoy!
- Try all 3 kinds of physical activity:
 - Strength and balance exercises (such as lifting light weights, stair climbing, tai chi)
 - Endurance exercises (such as walking and dancing)
 - Flexibility exercises (such as tai chi, stretching and yoga)


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Let's try some exercises together!



Exercise 1: Single Limb Stance

Stand behind a steady, solid chair (not one with wheels), and hold on to the back of it

1. Lift up your right foot and balance on your left foot, holding as long as you can
2. Switch feet

The goal is to stand on one foot with (or without holding on to a chair if safe to do so) and hold that pose for up to a minute

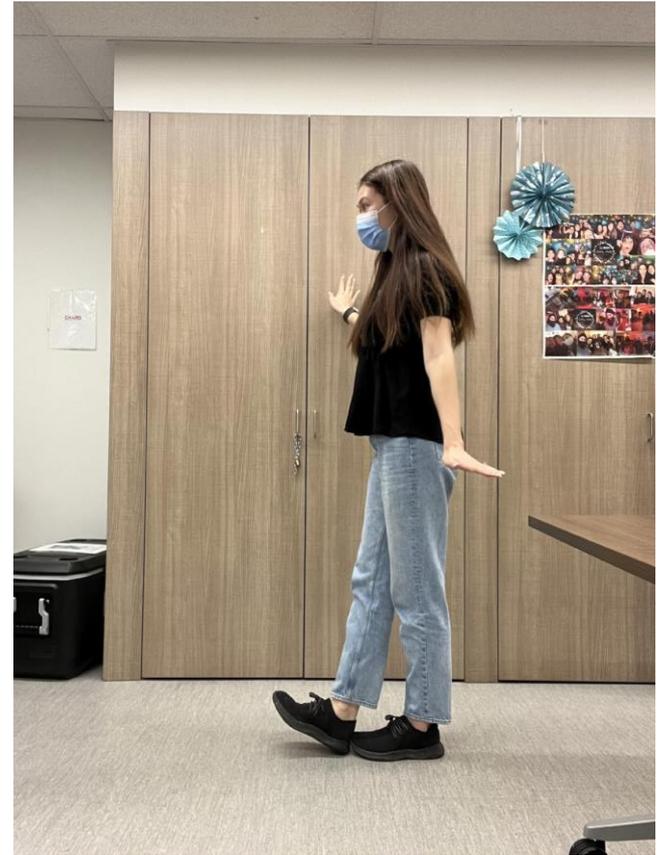


Exercise 2: Walking Heel to Toe

Increase leg strength and balance, to better prevent falls!

1. Put your right foot in front of your left foot, so the heel of your right foot touches the top of the toes of your left foot
2. Move your left foot in front of your right, putting your weight on your heel
3. Then, shift your weight to your toes
4. Repeat the step with your left foot
5. Walk this way for 20 steps

Use a counter, wall or handrail for extra support!



Exercise 3: Side Leg Raise



Recommend to use chair to increase safety and balance.

1. Stand behind the chair with your feet slightly apart
2. Slowly lift your right leg to the side
3. Keep your back straight, your toe facing forward, and stare straight ahead
4. Lower your right leg slowly
5. Repeat exercise 10 to 15 times per leg. (pretend the chair is in front of Faith on the image on the left!)



Exercise 4: Wall Pushups

Stand arm's length in front of a wall that doesn't have any paintings, decorations, windows or doors!

1. Lean forward slightly and put your palms flat on the wall at the height and width of your shoulders
2. Keep your feet planted as you slowly bring your body towards the wall
3. Gently push yourself back, straightening your arms
4. Aim to repeat 20 times!



Exercise 5: Marching in Place

Marching is a great balance exercise!

1. Standing straight
2. Lift your right knee as high as you can, then lower it
3. Lift your left leg, then lift and lower your legs 20 times

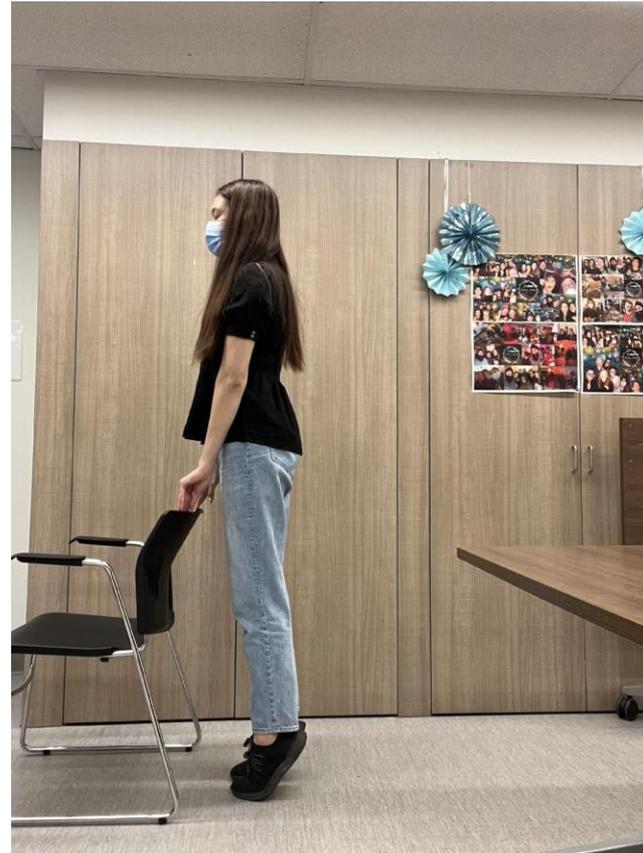
Use a wall, counter or sturdy chair for extra support!



Exercise 6: Toe Lifts

Great for practicing your balance!
You'll need a chair or a counter.

1. Stand straight and put your arms in front of you
2. Raise yourself up on your toes as high as you can go, then gently lower yourself. (Don't lean too far forward on the chair or counter!)
3. Repeat the lift and lower 20 times



Exercise 7: Shoulder Rolls

Can do seated or standing.

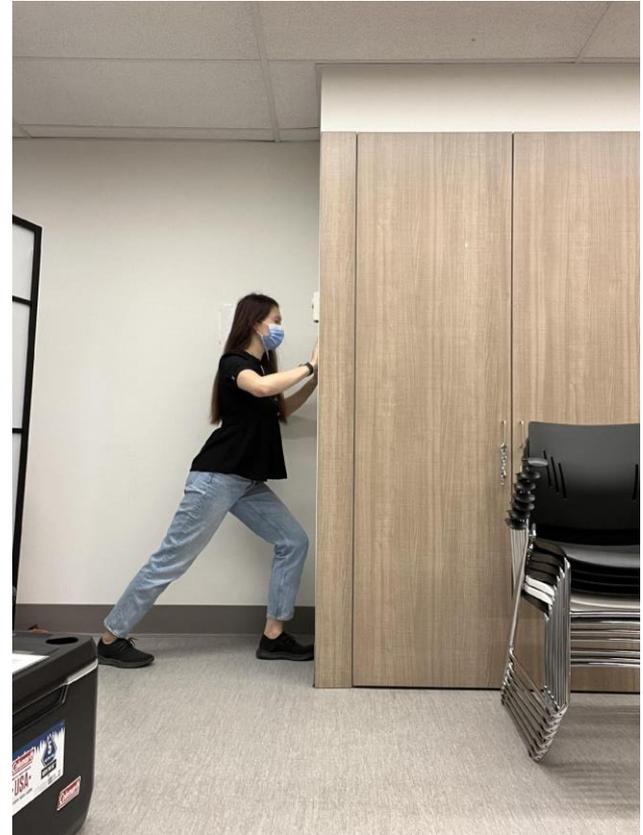
1. Rotate your shoulders gently up to the ceiling, then back and down
2. Switch direction! Roll shoulders forward and then down



Exercise 8: Calf Stretch

Find a blank, sturdy, wall.

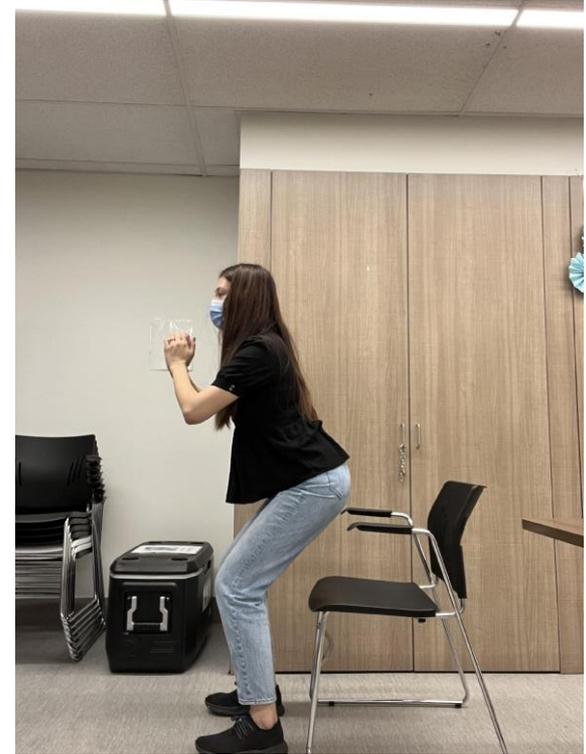
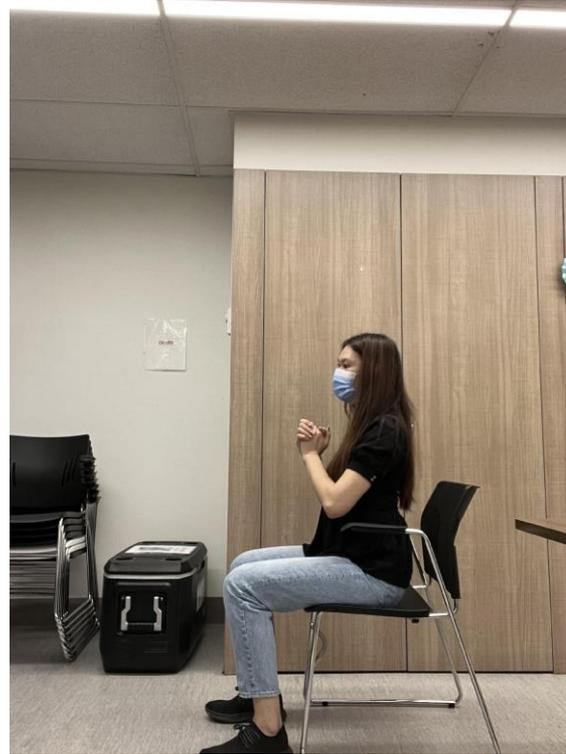
1. Stand facing the wall with your hands at eye level
2. Place your left leg behind your right leg
3. Keep your left heel on the floor and bend your right knee
4. Hold the stretch for 15 to 30 seconds and repeat 2 to 4 times per leg.



Exercise 9: Seated Squats

Great for strengthening your legs and core, **making it easier to use stairs and get in and out of cars!**

1. Stand in front of a chair, push your hips back towards the chair and bend your knees, keeping your chest and shoulders upright
2. Pause just above the chair (or sit down for a moment) and then stand upright
3. Start slowly – your strength will build over time and you can increase the repetitions



Resources

Contact a healthcare provider, or call HealthLinkBC at 8-1-1, if you are experiencing mild, cold-related illness. Call 9-1-1 in case of medical emergency.

To find your nearest available shelter, you can call 2-1-1 or check out:

- <https://vancouver.ca/people-programs/shelters.aspx>
- <http://shelters.bc211.ca/bc211shelters>
- <https://vancouver.ca/images/web/shelters/vancouver-ewr.pdf>

