Chapter # 6
Exercise & Cold Weather

Know how to exercise safely in cold weather

You Will Learn:

1) How your body responds to exercise in cold weather
2) How to exercise safely in cold weather
3) About places where you can exercise indoors
Be Aware of How Your Body Responds to Exercise in Cold Weather

How Your Body Responds to Exercise in Cold Weather

Cold weather can put extra pressure on your heart. When you are cold, your body temperature lowers. Your lower body temperature causes the blood vessels near your skin to become narrow (see Figure 1 B below). This process causes blood to move away from the surface of your body to reduce heat loss. Although your body stays warmer, your heart has to work harder to pump blood through the narrow vessels. As a result:

- Your blood pressure may increase
- You may get symptoms of angina
- Irregular heartbeats
- Shortness of breath
- Feel dizzy

Breathing in cold air can also cause your coronary arteries (the blood vessels that bring blood and oxygen to your heart) to become narrow. This is known as a spasm of the coronary arteries and may result in angina.

Important!
You can exercise outdoors in the cold weather if it does not make your heart work too hard. Do not exercise outdoors when the temperature is:

- below -10 °C (15 °F) or when the combined air temperature and wind chill is below this level.
Along with cold temperatures, there are 4 more cold weather hazards that you need to be aware of:

1) Snow and Ice
Do not walk on snow covered or icy roads. Walking through snow can increase your level of effort and make your heart work too hard. Walking on ice raises your risk of slipping and falling.

2) Headwind
Do not exercise outdoors if there is a strong headwind. A headwind (when the wind is blowing toward you) increases the chance of feeling chilled. It can increase your level of effort and make your heart work too hard.

3) Rain and wet snow
Wear proper clothing if you exercise outdoors in the rain or wet snow. Wet clothing will not keep you warm and you will lose body heat.

4) Rapid Weather Changes
Bring an extra layer of clothing to exercise outdoors in case the weather changes. When the weather changes from sunny to cloudy, the temperature can drop by 7°C.

**How To Exercise Safely In Cold Weather**
Follow these 7 safety tips when you exercise in cold weather.

1) Check the Weather Report
Check the local outdoor temperature at the time of your exercise. Make sure the temperature is above -10°C with the wind chill. Do **not** exercise outdoors:
- When the temperature is below -10 °C (15 °F)
- When the combined air temperature and wind chill is below -10 °C (15 °F)
You can get the current temperature with the wind chill from your TV, radio, smartphone or computer.

2) Dress in Layers
You can often exercise safely outdoors in the cold weather if you dress right. Dressing in layers can help trap warm air close to your body. Wear layers that will:
a) Keep You Dry
The first layer is to keep you dry. This layer is often called the base layer. A major function of your base layer is to move sweat away from your skin (this is called wicking). Clothes made from a dry wick material (a man-made fabric) is a good choice. You can find shirts, pants, briefs, and bras made from these fabrics that work well as a base layer.

Did you know: A 100% cotton t-shirt is the worst type of clothing to wear next to your skin in cold weather? When cotton becomes wet with sweat, it sticks to your body. This means it cannot hold warm air close to your body so your body temperature will lower. Do not exercise in a cotton base layer.

b) Keep You Warm
The next layer is to keep you warm. A loosely woven wool sweater is a good choice. A loose weave helps to trap warm air close to your body. The oils found in wool help to keep you warm even when your shirt gets wet.

c) Protect You Against Rain, Snow and Wind
The outer layer protects your legs and upper body against rain, wet snow and wind. It is not ideal to exercise in the rain, wet snow and wind, but you should be prepared to in case the weather changes quickly. Choose an outer layer that is:
- Water resistant (repels water to keep you dry)
- “Breathable” (allows sweat and moisture from inside your clothing to escape)

d) Protect Your Head, Hands and Feet
Since 20% of body heat is lost from your head, it is important to wear a hat in cold weather. When you breathe cold air, it can cause angina. You can wear a face mask or a scarf over your mouth to help ensure the air you breathe is warmer.

Mittens and socks, made from a tight weave wool blend, will protect your hands and feet from frost bite and skin damage.
Wear your running shoes to exercise in the cold weather. Do not wear heavy winter boots. Heavy boots will increase your level of effort which makes your heart work harder. If you would like more traction on your shoes, you can attach traction aids to the bottom of each shoe.
3) **Drink Water**

Drink water before, during and after your exercise. Follow these guidelines to ensure you drink enough water:

- Drink 6-8 ounces of water (about 175 to 240mL) before exercise
- Drink 6-8 ounces of water (about 175 to 240mL) every 20 minutes during exercise and after you cool down
- Do not wait until you feel thirsty to drink
- Speak to your doctor if you have limits on how much fluid you can have each day

4) **Reduce Your Speed and Distance**

- Give your body time to get used to the cold weather. When the outdoor temperature drops quickly, exercise at a lower speed and for a shorter distance for at least one week
- Use your heart rate and the rating of perceived exertion (RPE) scale to help you adjust how hard you are working while you exercise.
- Slow your pace of walking if the weather is causing you to work harder
- Plan your outdoor route to be a short “out and back” route in case the weather changes during your exercise

Ask your Cardiac Rehab team to help you adjust your speed and distance when you exercise in cold weather.

5) **Do Not Shovel Snow**

Many people believe that shovelling snow is a great way to get exercise in the winter. But the effort required to remove snow is equal to non-stop jogging or running. This effort, combined with the added strain on your heart caused by cold weather, **will put you at high risk for a heart event.**

Research says that the highest number of people going to the emergency room for heart problems and sudden cardiac death occur with the first heavy snowfalls of the year. Your risk of having a
heart attack is higher if you have heart disease, a low level of fitness or if you had a stroke in the past.

To protect your heart, ask someone in your household not living with heart disease to shovel the snow. If you do not have someone in your household who can shovel snow, some cities/townships offer a free snow removal service for people living with heart disease or a chronic health problem. Contact your local city/township office to inquire about the snow removal services offered to people living in your area. If your city/township does not offer a free snow removal service, you can also hire a snow removal service or a neighbour.

6) Watch for Symptoms
Be aware of symptoms of angina, chest pain, feeling dizzy, irregular (skipped) beats or shortness of breath. If you feel any of these symptoms, slow down your exercise at once. If you have angina, follow the steps to manage angina (Chapter 4—Angina). Speak with your Cardiac Rehab team to see if your exercise prescription needs to be changed.

7) Take a Rest Day
Take a rest day if it is too cold to exercise outdoors and it is unsafe to travel to a place where you can exercise indoors.

**Places Where You Can Exercise Indoors**

You may choose to exercise indoors in the winter. There are many options to choose from:

1) Health Club or Fitness Centre
Health clubs and fitness centres provide indoor exercise equipment such as treadmills, stationary cycles and elliptical machines. Most health clubs and fitness centres allow you to enrol part-time or yearly. Talk to your Cardiac Rehab team for instructions on how to use indoor exercise equipment safely and to get an exercise prescription to use with these machines.
2) At Home
You can purchase exercise equipment to use at home. Talk to your Cardiac Rehab team if you plan to use home exercise equipment. Your Cardiac Rehab team can provide you with an exercise prescription to follow when you use your equipment.

3) Mall Walking
Mall walking is a free option to exercise indoors. Talk to your Cardiac Rehab team for a list of maps available.

4) Community Centre Indoor Tracks
Many community centres have indoor tracks that you can use.

5) Heart Wise Exercise-Approved Programs
Heart Wise Exercise lists fitness centres that offer exercise programs that are safe and well-suited for people living with heart disease or a chronic health problem. Many centres are now approved by Heart Wise Exercise. A fitness centre that has been approved will have people working there who know how to help people, like you, exercise safely.

Your Resources

1) A great resource for more information about snow shovelling can be found at this website:

2) Contact your local city/township office to inquire about the snow removal services available in your area.

3) For the City of Toronto, you may get more information about free snow removal services available to seniors and the disabled (includes people living with heart disease) by:
   a. Dialing 311 from a local telephone
   b. Go on line at http://www.toronto.ca/transportation/snow/sidewalks.htm
4) The Weather Network can give you up to date weather conditions for the day.  
   www.theweathernetwork.com

5) Refer to the Tool Box section of this workbook for more information about “Where Can You Do Your Exercise?”

6) If walking in a mall, find the mall-map on our website  
   http://www.takechargeonline.ca/resources/alumni-exercise/walking-maps/