

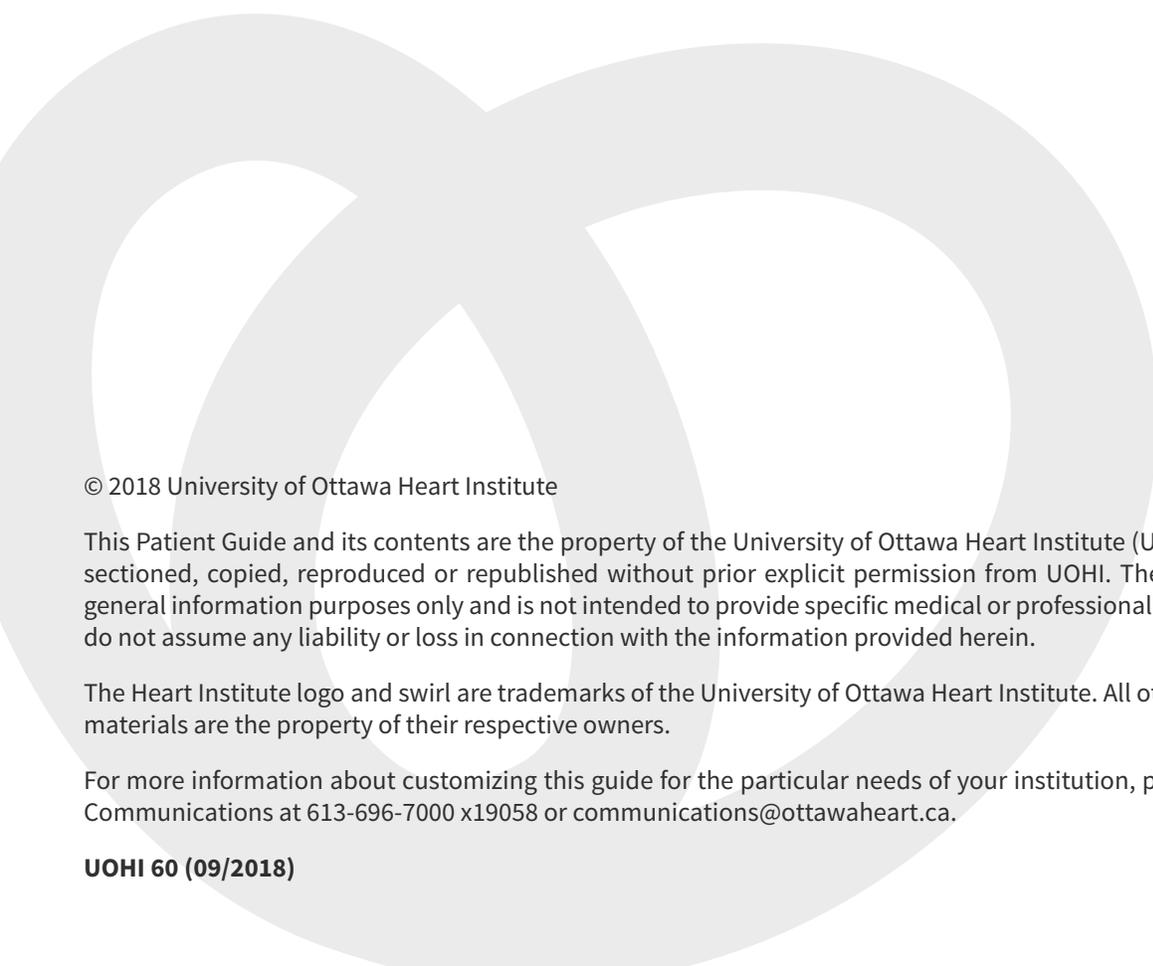


UNIVERSITY OF OTTAWA  
HEART INSTITUTE  
INSTITUT DE CARDIOLOGIE  
DE L'UNIVERSITÉ D'OTTAWA

# Cardiac Rehabilitation: Physical Activity



A GUIDE FOR PATIENTS AND FAMILIES



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# WELCOME TO THE HEART INSTITUTE PREVENTION & REHABILITATION CENTRE

## **Congratulations on your decision to participate in our program!**

This program can help you:

- assume responsibility for your own care and get back to your daily routine as soon as possible.
- increase your physical fitness and endurance.
- change the behaviours that put you at risk for heart disease.
- slow down the progression of your cardiovascular disease and, in some cases, reverse the build-up of blockages already present in your arteries.
- reduce your risk for heart attacks, strokes, and the need for heart surgery or procedures.
- help to reduce symptoms, including angina and shortness of breath if you are still experiencing these.
- add years to your life and life to your years.

You are the most important member of the cardiac rehabilitation team!  
Your commitment to the program is critical.

You have the power within yourself to achieve your lifestyle management and risk reduction goals.

You can change the course of your life forever.

# INFORMATION FOR PARTICIPANTS

## Participants in the Onsite Classes:

You should make a plan to exercise regularly in your home or community along with your program at the Heart Institute. This way, by the time you finish the rehabilitation program, independent exercise will already be part of your routine.

This booklet, along with your physiotherapist, will help you plan an appropriate exercise program. Most of the information provided in this booklet will be explained to you in short presentations at the end of each of your classes. Please bring the booklet home: you do not need to bring it to each class. It is meant to be a resource for you to consult at home, a reminder of what you have learned in class.

We also encourage you to consult **Appendix 7** on page 74 for useful information about the classes, including our track rules for safety.

## Participants in the Case-Managed Home Program (CMHP):

You will be working with a mentor (nurse or physiotherapist) over the phone for about three months. Your mentor will help to guide you in the health changes you want to make.

Please read **Appendix 8** on page 76 for information about team and participant responsibilities as well as attendance and discharge policies.

## Participants in the Brief Program:

This is the program with the least amount of interaction and support from our staff. However, as with all other programs, please do not hesitate to contact your physiotherapist if you have questions or are experiencing difficulties in reaching your lifestyle goals. Also, remember you can attend the nutrition, stress management, and physical activity workshops available through Cardiac Rehab. Please speak to your physiotherapist about registering.

## AN IMPORTANT NOTE

The staff members of the cardiac rehabilitation centre are part of your health care team. Our main purpose is to help you adopt healthy lifestyle habits to manage your heart disease. While we want you to let us know of any changes to your health, we cannot diagnose any new symptoms you may be feeling.

To help us provide you with the best care, it is important that you follow these three guidelines below.

- If you are experiencing a change in your cardiac symptoms (for example, more frequent angina, unusual shortness of breath, etc.), follow-up with your family doctor or cardiologist or go to the nearest hospital emergency. They will have the necessary resources to treat you.
- Please do not present yourself to the exercise classes or workshops with new symptoms. If you are unwell, you should not be exercising that day.
- If you have something that might be passed along to others (a cold/flu, a new cough, a fever, unusual shortness of breath, nausea, diarrhea, vomiting, pink eye, etc), do not present yourself to the cardiac rehabilitation centre for any onsite appointments (including exercise classes). We kindly ask you to call to notify us and reschedule any individual appointment or missed workshop. You can notify your physiotherapist by phone if you are going to miss multiple exercise classes.

# GOAL SETTING

*This section was adapted from the Cardiac Rehabilitation booklet from the Wellness Institute at Seven Oaks Hospital in Winnipeg, Manitoba, 2009.*

At the beginning of your cardiac rehabilitation program, we asked you to tell us which results you are hoping to reach. As you know, heart disease is a condition that requires long-term care. Many of you may have goals regarding your risk factors for heart disease. Some of you may simply want to improve your strength and endurance to return to all of the activities you want and need to do.

We will provide you with your risk factor report, which can show you possible areas for change. However, it is up to you to decide what changes you are willing to make. In other words, we are encouraging you to take an active role in your health.

Setting goals is an important part of making these changes. In this section, we will guide you to set realistic goals/action plans to help you move towards your desired results. Think of the goal as the steps you will take to reach your desired outcomes.

## GETTING STARTED

Decide what you want to achieve. Remember this should be something that is important to you, not just something others have said you should do.

If you already know exactly what you want to do, you can skip ahead to the section about **S.M.A.R.T. Goals** (see page 9). Otherwise, we invite you to answer the questions below.

Make a list of the results you want to reach regarding your heart health.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

Take a moment to think about these results and put a star next to the one you want to work on first.

Consider why this result is important to you (these are your reasons to change).

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

On a scale of 0 to 10, how important is it to you to make this change? \_\_\_\_\_

0=Not at all important 3=Unsure 5=Somewhat important 8=Very important 10=Extremely important

Now think about the reasons which keep you from making this change (these barriers could be situations, thoughts or feelings).

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

There are often many ways to reach a specific result. Try to think of steps you can take to help you reach your desired result. Do not limit yourself at this time. Write down each option, even if you do not think it is possible at this time. Feel free to discuss with others and get their ideas.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

Now choose one option you would like to work on and write it here:

---

---

---

---

---

---

---

Next, you need to decide how hard you are willing to work for this result. Most lifestyle changes require some effort on your part. If you are not willing to do or give up what it takes to reach your result, you may not be ready for this particular goal. You could be setting yourself up for disappointment. You may want to focus instead on a different plan to help you move toward the same result or work towards a different result.

However, if you decide this is still the right plan of action for you at this time, consider asking for support. Some people are able to do these types of changes on their own but most of us benefit greatly from the support of others. It could be someone to make the change along with you, to give you reminders and check in on your progress, to provide advice or simply to encourage you. Do not hesitate to ask your family, friends, colleagues or neighbours for help.

Who could be a source of support for you and how can they help you?

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

## S.M.A.R.T. Goals

The next step is to turn the result you want to achieve into an action plan or short-term goal. As you do this, think of the word SMART.

**Specific:** What? Decide exactly what you will do. Be as precise as you can.

**Measurable:** How much?

**Achievable:** When, where, how often?

**Realistic/rewarding:** This is a reality check: is this challenging but doable? Make sure it is something important to you.

**Timeline:** When will you check on your progress?

## My Action Plan

Here is an example:

This week, I will walk on the treadmill (what)  
before lunch (when)  
at the gym at work (where)  
for 20 minutes (how much)  
three times per week (how often)

Write down your first action plan.

This week I will:

\_\_\_\_\_ (what)  
\_\_\_\_\_ (when)  
\_\_\_\_\_ (where)  
\_\_\_\_\_ (how much)  
\_\_\_\_\_ (how often)

Now, how confident are you that you can complete this plan? On a scale of 0 to 10, 0 being not at all confident and 10 being completely confident, how sure are you that you can complete this plan?

Not confident at all

Completely confident

0-----1-----2-----3-----4-----5-----6-----7-----8-----9-----10

If your answer is seven or above, this is probably a realistic plan for you. However, if your answer is below seven, you should rethink your action plan. Ask yourself why you are not certain you can make this plan succeed. What barriers do you see? See if you can come up with some solutions to solve these problems or change your plan to one where you feel more confident.

## Logging My Progress

Congratulations, you are ready to put your plan into action. It is now important to keep track of your progress.

Here is an example of a table to keep track of your progress.

Day of the week	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Goal reached? Yes/No
Date:	Jan 3	Jan 4	Jan 5	Jan 6	Jan 7	Jan 8	Jan 9	
List of goal(s):								
Walk 20 mins, 3x/wk	✓		✓	✓	✓			Y + 1
Eat 3 vegetables 5x/wk		✓	✓		✓	✓		N
Deep breathing 5 mins, 5x/wk		✓	✓	✓	✓	✓		Y

**Progress tracker:**

Day of the week	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Goal reached? Yes/No
Date:								
List of goal(s):								

Day of the week	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Goal reached? Yes/No
Date:								
List of goal(s):								

## Checking the Results and Problem Solving

At the end of each week, check your results. If you are reaching your goals easily, it may be time to challenge yourself a little more. Be careful to make the changes gradually to keep them realistic.

For example, if you walked 20 minutes three times, you could increase to four or five times for the following week but do not jump to seven days per week immediately.

If you have struggled to reach your goal, try to determine the cause of your difficulty. Be very honest with yourself.

1. Identify the problem: \_\_\_\_\_
2. List possible solutions: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. Select one solution to try: \_\_\_\_\_
4. Re-assess your progress: \_\_\_\_\_
5. Try another solution if the first did not work: \_\_\_\_\_

## Keeping Things Going Strong

Once you have started to meet your goals, you need to think about how you will maintain these changes in the future.

On a scale of 0 to 10, 0 being not at all confident and 10 being completely confident, how sure are you that you can maintain this change over the next year?

Not confident at all

Completely confident

0-----1-----2-----3-----4-----5-----6-----7-----8-----9-----10

Why did you give yourself this score?

What are some barriers that could prevent you from maintaining these changes?

Can you think of some ways to get around these obstacles?

BARRIERS	SOLUTIONS

It is often helpful to think about the benefits you are getting with the changes that you have made. This can help with motivation.

My benefits:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

It is also important to reward yourself for a job well done. This can also help to boost your motivation to continue working hard. Think of rewards that will not set you back in your results.

My rewards:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

## Dealing with Setbacks

It is completely normal to have an occasional setback. Try to avoid blaming yourself or thinking the worst will happen.

Think of the factors which led to the setback. Think about how, when, and where, instead of why it happened.

What did you do or not do:

1. Before the setback? \_\_\_\_\_
2. During the setback? \_\_\_\_\_
3. After the setback? \_\_\_\_\_

What can you do to get back on track as soon as possible? Set some short-term goals.

1. \_\_\_\_\_
2. \_\_\_\_\_

What would you do differently in the future?

1. \_\_\_\_\_
2. \_\_\_\_\_

Try to identify high-risk situations and make a plan for them.

1. \_\_\_\_\_
2. \_\_\_\_\_

Change takes time. Be patient with yourself. If you do not reach your goals the first time, try again but do something differently.

Most importantly, celebrate your successes along the way.

# ACTIVITY, EXERCISE AND FITNESS

Let us first define some key terms regarding physical activity, active living and exercise.

- **Physical Activity** includes all muscle activities that burn more calories than resting.
- **Active Living** means making conscious choices to move more each and every day. You make meaningful, enjoyable physical activities a routine part of your daily living.
- **Physical Fitness** is the ability to have enough energy to do all the things you want and need to do.
- **Exercise** is planned, structured, repetitive activities to improve or maintain the components of physical fitness detailed below.
- **Cardiovascular endurance** is the ability of the heart to supply enough oxygen to muscles during a physical activity for a prolonged period.
- **Flexibility** is the range of movement in a joint or series of joints, and length in muscles that cross the joints.
- **Muscular strength** is the amount of force a muscle can produce with a single maximal effort.
- **Muscular endurance** is the ability of the muscle to sustain repeated contractions against a resistance.

You will be given guidelines and tips regarding both exercise and active living. Ideally, you include some of each in your life, as both are important to your health.

## TYPES OF EXERCISE

Your exercise program should include aerobic or cardiovascular exercise, stretching and strengthening to work on all the components of fitness. We will start by aerobic exercise as this is one of the most important types of exercise for your heart health.

# AEROBIC EXERCISE

Regular exercise sessions should include aerobic exercise.

Aerobic exercise:

- uses large muscles.
- is continuous.
- increases your heart rate for 10 minutes or more.
- burns calories.

## How Often, How Hard, How Long, What Type?

The acronym **F.I.T.T.** is often used to provide guidelines for different types of exercise. It stands for **F**requency, **I**ntensity, **T**ime and **T**ype. Below are the guidelines for aerobic exercise.

**F – Frequency – How often?** Plan to do aerobic exercise five to seven days per week.

**I – Intensity – How Hard?** It is best to exercise at a moderate intensity, which is a level where you can carry on a conversation but are still exerting some effort. Some participants are able to exercise at a more vigorous intensity but you should discuss this with the staff of the cardiac rehabilitation program before engaging in these types of activities. Later we will teach you how to monitor your exercise intensity accurately.

**T – Time – How Long?** Try to exercise without stopping. Your long-term goal is to exercise for a total of 30 to 60 minutes per session. While continuous exercise is best for achieving all the benefits, exercise sessions of as little as 10 minutes can be added up throughout the day.

Aim for 200 to 400 minutes of aerobic exercise per week

**T – Type – What kind of activity?** Examples of aerobic exercise include brisk walking, swimming, cycling, skating, cross-country skiing, using equipment such as a treadmill or stationary bicycle, or joining dancing and aerobic classes.

Walking Can Be the Perfect Aerobic Exercise.

- It can be done almost anywhere.
- You only need a pair of comfortable shoes.
- No special skills are required.
- The risk of injury is very low.
- Ten thousand steps each day is a great way to achieve a healthy exercise goal.

## OTHER EXERCISE OPTIONS

You may also want to consider Nordic walking. It is performed with specially designed poles similar to ski poles. Nordic walking burns more calories than regular walking by using more muscles groups. You can use walking poles to relieve some of the stress on your back and your legs and still get a great workout.

If you have joint or muscle problems, you could also try low impact or chair exercise classes or even have some fun in the water with aqua fitness. You could use recumbent stationary equipment such as a bike or stepper, which has a bucket type seat with a backrest and the pedals or footplates are in front of you instead of being underneath you for greater comfort.

## AIT

Aerobic Interval Training or AIT is a form of cardiovascular exercise alternating periods of intense exercise with less intense recovery periods. It is a very effective way to train and has been shown to be safe for many clients with various cardiovascular conditions. If you are interested in this form of training, we advise you to discuss it first with the staff of the Division of Cardiac Prevention and Rehabilitation to ensure it is appropriate for you. We can then teach you to apply it to your exercise routine safely.

# PLANNING YOUR EXERCISE PROGRAM

## Step 1: Your Personal Benefits of Exercise

### A: KNOWING WHY YOU EXERCISE IS AN IMPORTANT PART OF DEVELOPING YOUR PLAN AND STICKING TO IT.

Review these possible benefits of exercise then indicate those that are important to you. Be sure these are the real reasons you want to exercise. You are more likely to make long-term changes when the motivation comes from within you.

Do you believe regular physical activity will help you...

	Strongly Disagree		Strongly agree		
... improve your heart health by:					
• reducing blood pressure?	1	2	3	4	5
• improving cholesterol levels?					
• lowering triglycerides?					
• helping to prevent or control diabetes?					
... reduce risk of heart attack, stroke, and some cancers?	1	2	3	4	5
... reduce your risk of dying?	1	2	3	4	5
... increase your energy?	1	2	3	4	5
... improve your fitness level?	1	2	3	4	5
... improve your muscular strength and endurance?	1	2	3	4	5
... improve your flexibility, agility and coordination?	1	2	3	4	5
... improve your appearance?	1	2	3	4	5
... improve your balance?	1	2	3	4	5
... help manage your weight?	1	2	3	4	5
... help reduce cravings for cigarettes?	1	2	3	4	5
... strengthen your bones?	1	2	3	4	5
... perform your job better?	1	2	3	4	5

... help manage your stress?	1	2	3	4	5
... improve your sleep and relaxation?	1	2	3	4	5
... reduce your feelings of anxiety and/or depression?	1	2	3	4	5
... provide a sense of well being?	1	2	3	4	5
... feel a sense of achievement?	1	2	3	4	5
... improve your self-esteem?	1	2	3	4	5
... meet new people?	1	2	3	4	5
... feel less bored?	1	2	3	4	5
... have fun?	1	2	3	4	5

**B: LIST THE TOP THREE REASONS WHY EXERCISE IS IMPORTANT TO YOU:**

My benefits:
1.
2.
3.

The longer you are active, the more benefits you will enjoy. The more benefits you enjoy, the more likely you are to stay active for a lifetime.

## Step 2: Possible Barriers to Exercise

### A: THERE MAY BE SOME REASONS WHICH MAKE IT DIFFICULT FOR YOU TO PERFORM EXERCISE REGULARLY.

Indicate which of the following factors may be a problem or barrier to increasing your level of physical activity. Be honest in your answers.

	No problem		Major problem		
	1	2	3	4	5
Lack of time due to family or social obligations and/or work responsibilities	1	2	3	4	5
Travel (work or vacation)	1	2	3	4	5
Lack of interest	1	2	3	4	5
Lack of enjoyment/fun	1	2	3	4	5
Lack of motivation	1	2	3	4	5
Getting discouraged	1	2	3	4	5
Poor weather	1	2	3	4	5
No access to exercise equipment	1	2	3	4	5
Lack of energy	1	2	3	4	5
Ongoing medical issues/acute illness	1	2	3	4	5
Joint or muscle problems/injuries	1	2	3	4	5
Fear of injury	1	2	3	4	5
Lack of knowledge about exercise	1	2	3	4	5
Lack of companionship	1	2	3	4	5
Self-conscious about abilities	1	2	3	4	5
Self-conscious about how I look during exercise	1	2	3	4	5

**B: WRITE DOWN THE BARRIERS IDENTIFIED ABOVE WHICH MAY PREVENT YOU FROM EXERCISING REGULARLY AND THINK OF WAYS TO OVERCOME EACH ONE.**

BARRIERS OR PROBLEMS	WAYS TO OVERCOME BARRIERS
<b>Example:</b> I'm too tired to exercise.	Start at an easy pace, exercise first thing in the morning.
1.	
2.	
3.	

### Step 3: Your Exercise Habits

It is often helpful to look back at physical activities you have done in the past to help you plan for the future.

Let us start with activities you were able to maintain for a period of time. Please list them below and indicate why you think they worked for you.

PAST SUCCESSFUL ACTIVITIES	REASON WHY I WAS SUCCESSFUL
<b>Example:</b> Swim Class.	I liked the group setting.
1.	
2.	
3.	

You can also learn from activities which did not work for you. Please list them below and indicate why you think these activities were not successful. If you plan to try these activities again, it will be important to find solutions to the barriers which prevented you from continuing them long-term.

PAST UNSUCCESSFUL ACTIVITIES	REASON WHY I WAS UNSUCCESSFUL
<b>Example:</b> Walking outside.	I did not feel safe walking alone.
1.	
2.	
3.	

Now consider your physical activity during the last month and think about how often, how long and how hard you have been exercising.

Let us compare your current physical activity level to the target guidelines previously mentioned.

ASSESSMENT	YOUR RESULT	RECOMMENDED GUIDELINES	MEETING GUIDELINE? (YES OR NO)
Number of days per week you exercise		Five or more days per week	
Number of minutes of exercise per session		30 minutes or more per day	
At what intensity?		moderate or vigorous intensity	

Do not worry if you do not currently meet the guidelines. One of the goals of cardiac rehabilitation is to help you get there and stay active.

## Step 4: Finding a Place to Exercise

When choosing a place to exercise, it is important to choose a location that is easy for you to access and that fits well into your regular routine. It is also important to find a place where you will feel safe. The right place to exercise means different things for different people but finding the right one for you is important to your long-term success.

Please answer the following questions by circling the correct answer.

QUESTION	ANSWER
Do you currently exercise only outside?	Yes / No
Do you feel safe walking in your neighborhood?	Yes / No
Will you exercise outside in poor weather?	Yes / No
Do you have home exercise equipment (treadmill, stationary bike, rowing machine, elliptical, etc.)?	Yes / No
Are you a member of an exercise facility?	Yes / No
If not, do you intend on becoming a member at an exercise facility?	Yes / No / Maybe
Do you have access to another indoor place to exercise (mall, school, arena, community center, etc.)?	Yes / No

## Exercise Options in the Community

Here are some possible places to exercise.

### INDOOR OPTIONS

#### Home

- Convenient, allowing you to fit exercise inside while doing something else such as watching TV, listening to music or even supervising children.
- If you prefer independent exercise, this is an excellent choice.
- Usually includes the use of stationary exercise equipment or exercise videos. If you are interested in purchasing equipment for home, please refer to the guide on page 30.

#### Malls or Schools

- Free or low cost.
- Safe and climate-controlled setting for you to walk.
- Independent or group options available.
- You may need to drive to get there. Is this always possible?

#### Fitness Club, Recreation Centre, Community Pool

- Group/class settings, independent exercise, or both.
- Usually offers a greater variety of options.
- An exercise leader or personal trainer may be able to help you implement your program and incorporate the guidelines given to you by the Heart Institute.
- Often requires a membership fee.
- Is it close to you? If you need to drive to get there, will this always be possible?
- Do the hours suit you?

### OUTDOOR OPTIONS

#### Neighbourhood

- Streets or local paths and trails.
- Allows for different activities (walking, cycling, cross-country skiing, etc.).
- Exercise in a group (a club or group of friends) or independently.
- Is it safe at the time of day you would like to exercise?
- Will you exercise here year round?
- Air quality may be a consideration.

#### School Track

- Provides a more structured place to walk outdoors.
- May only be available when schools are closed.

#### Outdoor Walking Clubs

- If you prefer a group setting, these can be enjoyable and motivating.

## HEART WISE EXERCISE

**Website:** [heartwise.ottawaheart.ca](http://heartwise.ottawaheart.ca)

**Phone:** 613-796-7387

**Email:** [heartwise@ottawaheart.ca](mailto:heartwise@ottawaheart.ca)



Heart Wise Exercise is a program designed to help identify exercise facilities, programs and classes which are safe and appropriate for people with heart problems and other chronic conditions.

Each Heart Wise Exercise agency must complete the training program through the University of Ottawa Heart Institute and meet specific criteria before being designated as a Heart Wise program. This program ideally works along with your formal cardiac rehabilitation.

Heart Wise Exercise is available in Ottawa and throughout the Eastern Ontario region, as well as elsewhere in Ontario. These designated programs are offered in a variety of facilities including fitness centres, high schools, and shopping malls. There is no cost above the usual enrolment fee for any facility, and there are several free programs, such as walking programs and exercise classes.

For more information or for assistance in locating a program please contact us at the number or email listed above. Please note the website has an interactive map to help you locate programs near you (select the locations tab, then your area, then find locations). It also has a list of free walking programs (select the locations tab, then your area, then resources).

You can also look at a list of other community resources at [pwc.ottawaheart.ca/care/find-resources-your-community](http://pwc.ottawaheart.ca/care/find-resources-your-community)

## Step 5: Your Personal Exercise Plan

When you think about exercise for the whole year, it may be necessary to have a different exercise plan for the summer and the winter months. In our region, because of our hot summers and variable conditions in the winter, many people need to have a plan for indoor exercise.

Consider your plan of exercise for summer and winter.

ACTIVITIES/PLACES FOR SUMMER	ACTIVITIES/PLACES FOR WINTER
<b>Example:</b> walk in my neighborhood.	<b>Example:</b> walk at the local mall.

Please see page 41 for seasonal considerations.

It is best to build exercise into your daily routine. Think of your exercise session as an important appointment or date you would not miss or cancel. Make a goal for your first week. For example, it could be to walk for 20 minutes three times per week in the afternoons around your neighbourhood.

My goal for this week is: \_\_\_\_\_

Now use the grid below to plan your own personal schedule for the next week to help achieve this goal.

DAY	WHEN (TIME OF DAY)	WHAT (TYPE OF EXERCISE)	WHERE	DURATION
Monday				
Tuesday				
Wednesday				
Thursday				
Friday				
Saturday				
Sunday				
Total number of minutes for the week				minutes

Once you have successfully met your Week 1 goal, use the grid again for Week 2. As you continue to exercise, you will be able to achieve more and more. Think about what exercise goals you would like to achieve by three months.

**My three-month exercise goals are:**

1.

2.

3.

**My long term exercise goals are:**

1.

2.

3.

Visualize how you will feel once you have reached your goals.

# EXERCISE EQUIPMENT

## Shoes for Exercise

Shoes are the single most important piece of equipment you will need to begin your exercise program. They provide the extra support and cushioning needed to make your exercise more enjoyable.

### TIPS FOR BUYING ATHLETIC SHOES

- Choose a shoe that is designed for the activity you will be doing (for example, a walking shoe versus a tennis shoe).
- Shop for shoes at the end of the day when your feet are likely to be larger.
- Take along the type of sock you will wear with that shoe. Take orthotics with you if you use them.
- Bring in your old pair so that an experienced sales person can look at it and see what type of wear pattern you have. This can tell them a lot and help them show you the right type of shoe to buy.
- Spread and wiggle your toes while standing to ensure there is enough room in the toe.
- Lace your shoes and check the space between the lace holes and across the tongue of the shoe. There should be 2.5 cm (1 inch) for a good fit.
- The arch of the shoe should support the arch of your foot.
- Walk or jog around the store to test for comfort and cushioning.

### IMPORTANT INFORMATION FOR DIABETICS

You may be more susceptible to foot problems if you have diabetes. Looking after your feet every day is very important. Remember to:

- trim nails carefully.
- always wear socks and shoes.
- wash and dry feet daily.
- check your feet daily for blisters, cuts and sores.
- use water shoes around pools or beach areas.

# How to Buy Exercise Equipment for Your Home

## THINGS TO CONSIDER

- How much can you spend?
- What type of equipment will you enjoy using?
- How much space do you have for your new equipment?
- Is the equipment under warranty? Are you buying it from a centre that may offer you a service agreement for repairs and replacement parts?
- Can you try out the equipment and return it if you are not completely satisfied?

TYPE OF EQUIPMENT	ADVANTAGES	DISADVANTAGES	FEATURES TO CONSIDER
<b>Treadmill</b>	<ul style="list-style-type: none"> <li>• Easy to learn to use.</li> <li>• Motorized.</li> <li>• Absorbs more of the impact when compared to the road. (This depends on the suspension system. Ask the salesperson for specifics).</li> </ul>	<ul style="list-style-type: none"> <li>• Expensive.</li> <li>• May be noisy.</li> <li>• Requires large amount of floor space.</li> </ul>	<ul style="list-style-type: none"> <li>• Motorized versus manual (manual is not recommended).</li> <li>• Size of the motor.</li> <li>• Variable speed.</li> <li>• Variable incline.</li> <li>• Safety features.</li> <li>• Size of the belt.</li> <li>• Cushioning on the deck (top surface). If you plan to run, you need a sturdy belt.</li> </ul>
<b>Stationary Bicycle</b>	<ul style="list-style-type: none"> <li>• Good choice for people with knee or back problems or those who are overweight.</li> <li>• Less expensive.</li> <li>• Less amount of floor space used.</li> <li>• Some bicycles have features that allow you to use your arms and legs simultaneously.</li> </ul>	<ul style="list-style-type: none"> <li>• Seats may be uncomfortable or take some time to get used to, although there are gel seats on the market.</li> <li>• Dual action cycles can be noisy.</li> </ul>	<ul style="list-style-type: none"> <li>• Adjustable intensity or resistance.</li> <li>• Easily-adjusted seat and handlebars.</li> <li>• Comfortable seat.</li> <li>• Dual action (arm and leg motions).</li> </ul>

TYPE OF EQUIPMENT	ADVANTAGES	DISADVANTAGES	FEATURES TO CONSIDER
<b>Recumbent Bicycle</b>	<ul style="list-style-type: none"> <li>• Good choice for people with knee or back problems or those who are overweight.</li> </ul>	<ul style="list-style-type: none"> <li>• May be more expensive than a regular bicycle.</li> <li>• Requires more floor space.</li> </ul>	<ul style="list-style-type: none"> <li>• Easily adjustable seat.</li> <li>• Dual action (arm and leg motions).</li> </ul>
<b>Recumbent Stepper</b>	<ul style="list-style-type: none"> <li>• Good choice for people with knee or back problems or those who are overweight.</li> <li>• With use of arms and legs together, can be great choice for those with limited function in one or two limbs.</li> </ul>	<ul style="list-style-type: none"> <li>• Usually very expensive.</li> <li>• Requires more floor space.</li> </ul>	<ul style="list-style-type: none"> <li>• Low step-through design for easy access.</li> </ul>
<b>Rowing Machine</b>	<ul style="list-style-type: none"> <li>• Excellent for overall fitness.</li> <li>• Dual action (arm and leg motions).</li> </ul>	<ul style="list-style-type: none"> <li>• Requires very long floor space.</li> <li>• With improper technique, may cause low back strain.</li> <li>• Piston-driven machines do not last and produce awkward rowing motion.</li> <li>• Requires a fair amount of flexibility.</li> </ul>	<ul style="list-style-type: none"> <li>• Look for variable resistance and intensity.</li> <li>• Smooth sliding/rolling seat (such as a Concept II).</li> </ul>

TYPE OF EQUIPMENT	ADVANTAGES	DISADVANTAGES	FEATURES TO CONSIDER
<b>Elliptical Trainer</b>	<ul style="list-style-type: none"> <li>• Can pedal forward and backwards, thus using both major muscle groups in the legs.</li> <li>• More comfortable than a stair climber.</li> <li>• Burns more calories than level walking at the same speed.</li> </ul>	<ul style="list-style-type: none"> <li>• Requires more vertical space (ceiling height), especially for tall individuals.</li> </ul>	<ul style="list-style-type: none"> <li>• Non-slip pedals.</li> <li>• Variable speed and resistance.</li> <li>• Handlebars for dual action (arm and leg motions).</li> </ul>
<b>Stair Climbers</b>	<ul style="list-style-type: none"> <li>• Burns more calories than level walking at the same speed.</li> </ul>	<ul style="list-style-type: none"> <li>• Avoid air-filled shocks because they heat up quickly and this may result in cylinder damage.</li> <li>• Not a good choice for individuals with knee problems.</li> </ul>	<ul style="list-style-type: none"> <li>• Adjustable step height and resistance.</li> <li>• Smooth and quiet operation.</li> <li>• Independent versus linked pedal options.</li> </ul>

# WARM-UP AND COOL-DOWN

Your exercise session should include a warm-up, an aerobic training period and a cool-down.

## Warming Up

A warm-up includes any light exercise, ideally a lighter version of your intended exercise. If you are walking, do light walking or if you are swimming, do light swimming. You should warm up for 5-10 minutes, leading up to your intended exercise level. If you get angina when you exercise, you may even need a longer warm-up.

### WHY WARM-UP

- To slowly increase your heart rate to an aerobic level of exercise.
- To prepare your heart and muscles for exercise.
- To reduce symptoms when you exercise.
- To decrease the chance of irregular heartbeats.
- To help prevent injury.

## Aerobic Exercise Session

Aerobic activities challenge the heart, lungs and muscles to improve their function. Walking, cycling and swimming are just a few examples of aerobic activities you could do. During this session, your heart rate should be elevated or you should feel you are exercising at a moderate intensity or more for a sustained period of time. Ideally, your session should last 30 minutes or longer.

## Cooling Down

A cool-down should be a similar type of exercise as your warm-up, for 5-10 minutes, or until your breathing pattern has returned to normal. This is also an ideal time to do some light stretching.

### WHY COOL-DOWN

- To gradually slow down your body's systems, especially your heart rate and blood pressure.
- To help reduce the likelihood of symptoms and irregular heartbeats.
- To help prevent injuries.

Aim for 5-10 minutes of warm-up, 30 to 60 minutes of aerobic exercise and 5-10 minutes of cool-down on most days of the week.

# EXERCISING AT THE RIGHT LEVEL

Exercising at the right level means you are exercising at a level where you are getting the most benefit from the exercise while remaining safe. For many participants, this means exercising at a moderate intensity. There are several ways to determine the intensity of your activity. These include using the rating of perceived exertion (RPE) scale, the talk test, as well as taking your pulse.

## Rating of Perceived Exertion Scale (RPE)

One way to monitor how hard you are exercising is to give a rating of how hard the exercise feels to you. Using the scale below, choose a number that represents your overall level of effort and fatigue during your exercise session, not just one aspect of your experience such as your breathing or sore legs. For moderate intensity exercise, we recommend you work at a level that feels to be between levels 12-15. This may be adjusted by your physiotherapist or mentor.

### THE TALK TEST

The **talk test** is a simple way to measure your exercise intensity. If you are doing moderate intensity activity, you will be breathing faster than when you are resting but you should still be able to talk. If you can sing, you should increase the pace. If you are doing vigorous intensity activity, you will not be able to say more than a few words without taking a breath.

Rating of Perceived Exertion (RPE) Scale	
6	Nothing at all
7-8	Extremely light
9	Very light
10	
11	Light
12	
13	Somewhat hard
14	
15	Hard (heavy)
16	
17	Very hard
18	
19	Extremely hard
20	Maximal exertion

## HOW TO TAKE YOUR PULSE

- Place your index and middle fingers on the thumb side of your wrist just below the creases. Press lightly, and feel the beat in the artery running down that side of your wrist.
- Look at a clock or watch with a second hand or second counter. Starting with zero, count the number of beats you feel in 10 seconds.
- Multiply this number by 6 and you will have your resting pulse.
- Repeat this during or immediately after exercise, before cool-down. For many participants, the target heart rate for moderate intensity exercise is 20 to 40 beats per minute (BPM) over your resting heart rate. While participating in the cardiac rehabilitation program, you may be given a target heart rate that is more specific to you so that you can work at your optimal intensity level.

Many cardiac patients are on a type of medication that slows the heart down. This type of medication is called a beta-blocker (for example, Metoprolol, Bisoprolol, Atenolol, and Sotalol).

### Heart Rate Monitors

Heart rate monitors are a great option for those who have difficulty feeling their pulse or want to monitor their heart rate more closely. We recommend a monitor with a strap you wear around your chest, placing the sensor over your heart. You also wear a watch, which will continuously provide your heart rate while you exercise.

Please note a heart rate monitor may not give an accurate reading if you have an irregular heart rhythm such as atrial fibrillation.

You can find heart rate monitors at your local sports store, some department stores as well as online. Many heart rate monitors are paired with activity trackers which tell you how many steps you take in a day.

Number of Beats	
In 10 Seconds =	In One Minute
8 beats	48 beats per minute
9 beats	54 beats per minute
10 beats	60 beats per minute
11 beats	66 beats per minute
12 beats	72 beats per minute
13 beats	78 beats per minute
14 beats	84 beats per minute
15 beats	90 beats per minute
16 beats	96 beats per minute
17 beats	102 beats per minute
18 beats	108 beats per minute
19 beats	114 beats per minute
20 beats	120 beats per minute
21 beats	126 beats per minute
22 beats	132 beats per minute
23 beats	138 beats per minute
24 beats	144 beats per minute
25 beats	150 beats per minute

Generic heart rate charts found in most fitness clubs use a formula based on your age. Heart rate monitors and exercise equipment use a similar formula to determine your target heart or heart rate zone. If you are taking beta-blockers, you will not be able to follow any of these guidelines. Please verify with the staff of the cardiac rehabilitation program for your exercise heart rate zone.

# How to Know If You Are Exercising Too Hard

## Signs of Overexertion

Any of these symptoms are warning signs you are exercising too hard. Slow down and give your body more time to adapt.

- Being unable to exercise and talk at the same time.
- Prolonged fatigue 30 to 60 minutes after exercise.
- Continuous muscle or joint soreness.
- Lightheadedness.
- Nausea.
- Pounding in your head.
- Feeling faint or weak.
- A heart rate after cool-down more than 20 beats-per-minute above your resting heart rate

## ABNORMAL RESPONSES TO EXERCISE

Stop exercising immediately if you experience the following symptoms.

- Discomfort in the chest, arms, upper abdomen, upper back, neck, jaw or teeth.
- Dizziness.
- Palpitations or irregular heartbeats (feeling your heart race or skip beats).

Seek medical attention if the symptoms are not relieved quickly by resting or in the case of angina, by the use of nitroglycerine as described below.

Angina is a discomfort caused by a lack of oxygen to the heart muscle. It can be felt as squeezing, pressure, heaviness, tightness or pain. It is usually brought on by activity and relieved with rest. It is often felt in the chest but can be felt in other parts of the body as mentioned above. Not every discomfort felt in these areas is angina. If you have discomfort, please discuss it with your doctor as well as your cardiac rehabilitation team.

### STOP EXERCISING IF YOU GET ANGINA!

If you get angina while exercising:

- stop and rest for five minutes.
- If the angina lasts more than **five minutes**, use a nitroglycerine tablet or spray. Then, wait **five more minutes**.
- If the pain is still there, use another nitroglycerine tablet or spray. Wait another **five minutes**. If the pain is still present, call **911, and take a 3rd spray of nitroglycerine**.

# EXERCISE AND ILLNESS OR INJURY

## IF YOU ARE SICK

If you have a fever, you should not exercise. Allow your body to rest and heal. Once the illness is over, you may start your exercise again. Wait until you have been free of fever for at least 48 hours before starting to exercise again.

Never try to sweat out a fever. Fever and exercise are a bad combination. They can make the infection worse and even cause a potentially fatal condition of the heart muscle called myocarditis. If you exercise when you are sick, your body may have to work harder than when you are well. When you start exercising again after an illness, you may need to reduce the amount and intensity of your exercise.

## IF YOU HAVE UNUSUAL SYMPTOMS

It is important to know what is normal and what is not normal with exercise. Pain is not normal. **Stop** if something feels different and not normal. If you think you have a problem, get help.

**When you start exercising again after an illness**, you will need to reduce the amount and intensity of your exercise.

WHAT IS NORMAL	WHAT YOU SHOULD BE CONCERNED ABOUT
Faster heart rate	<ul style="list-style-type: none"><li>• Chest pain or discomfort down arm.</li><li>• Heaviness in your chest.</li><li>• New episode of irregular heart beats.</li></ul>
Breathing deeply	<ul style="list-style-type: none"><li>• Extreme breathlessness with light to moderate activity.</li></ul>
Breathing faster	<ul style="list-style-type: none"><li>• Wheezing.</li><li>• Inability to catch breath.</li></ul>
Sweating	<ul style="list-style-type: none"><li>• Lightheadedness.</li><li>• Nausea.</li><li>• Extreme Fatigue.</li><li>• Numbness.</li><li>• Pain of any kind.</li></ul>

## Learn to Treat Minor Injuries Early

Minor injuries can happen from time to time. These small strains and sprains can be frustrating but with the proper care, you can recover quickly and get back to your everyday activities.

The well-known RICE treatment is one method to help reduce pain and swelling.

### The RICE Method

**R – Rest** the injured area. The amount of rest depends on how badly you are hurt. With most minor injuries, it is safe and actually helpful to continue a low level of activity. Use pain as your guide.

**I – Ice** should be applied to the injured area. Cold reduces swelling, bleeding and pain. Do not apply ice directly to your skin. Wrap the ice or ice pack in a wet cloth. A general rule is to apply ice for 15 minutes followed by 45 minutes without the ice pack. Repeat this process for the first 3 hours. After that, two 15-minute ice treatments each day will be enough. Do not apply heat during the first 48 hours. Heat tends to increase swelling.

**C – Compression** or gentle pressure used with the ice can limit swelling. Apply compression evenly by wrapping an elastic bandage around the injured part. Do not wrap the bandage too tightly; you do not want to cut off blood flow. If the bandage is too tight or if you experience numbness, cramping or pain, or if swelling is severe, loosen the wrap then reapply.

**E – Elevate** the injured part above the level of the heart, even while sleeping if possible. Gravity prevents pooling of blood and other fluids, improves blood flow and reduces swelling.

### See a doctor immediately if:

- the pain or swelling is severe, or there is significant bruising.
- you can't move the injured part.
- the injury doesn't seem to get better.
- home treatment hasn't helped after a reasonable period of time.

If in doubt, play it safe and see a doctor.

# TIPS FOR STAYING ACTIVE

Research has shown sedentary behaviour, or sitting too much, is harmful to our health, including our heart health. Negative changes start to happen in our arteries with prolonged sitting. It prevents the proper breakdown of fats and sugar in our blood, which over time can lead to heart disease. Regular movement throughout the day, even leisurely movement, can help to lower our risk. It is recommended to move at least two minutes every 30 minutes or so.

Aerobic exercise is a key part of a healthy lifestyle. However, making active living a part of your life is also important. You can do lifestyle activities at any time and they do not require special equipment or specific skills. Here are ways to achieve this.

1. Look for ways to burn extra calories through lifestyle activities. It is not difficult to do.

Opportunities are all around you:

- Take the stairs instead of the elevator so long as this does not give you angina.
- Park farther away from the store and walk the extra distance.
- Cut the grass.
- Work in the garden.
- Walk the dog instead of watching TV.
- Play ball with your children or grandchildren.
- Walk to lunch instead of riding in a car.
- Play golf walking the course, instead of using a cart.
- Take up a new, active hobby, such as dancing or bowling.

A good way to keep track of how active you are in a day is to use a pedometer. It is a small device you wear on your belt. It tells you how many steps you are taking in a day. Reaching 10,000 steps in a day is considered an active lifestyle. There are also many other activity trackers on the market which can help you gauge your daily activity. Many of them will download the information to your computer or your smartphone.

2. Make exercise a regular part of your daily routine. Here are some ways to help you do this:

- Monitor your schedule for a week or two and find time slots for your exercise. If finding 30 minutes is too difficult, try to find three slots of 10 minutes.
- If possible, exercise first thing in the morning before other obligations get in the way.
- Lay out your exercise clothes the night before for an early morning exercise session.
- Carry your workout bag, especially your athletic shoes, with you in the car at all times.
- Put on your exercise clothes and do not take them off until you have exercised.
- Place home exercise equipment in a pleasant location in your home.
- Turn your commute into a workout. If possible, walk, cycle, run or rollerblade to work. If you take the bus, consider walking to a further stop before getting on or get off early and walk part of the way.

Remember that some exercise is better than no exercise!

## Ways to Overcome Barriers

Part of adopting an active lifestyle is being able to adapt to changes in your routine and overcoming situations which may make it difficult to continue with your regular exercise sessions.

### Business Travel and Vacations

- Walk instead of taking taxis.
- Take a brisk walk before breakfast or at the end of the day.
- Explore a new city by walking, jogging or cycling to see the sights.
- Use the equipment in the gym of the hotel.
- Include active recreation—hiking, fishing, bird watching, horseback riding or canoeing.
- Walk in the airport while waiting for your flight.

### Work Responsibilities

- Fit in short bouts of brisk walking several times during the day.
- Discuss work issues with coworkers while walking.
- Stretch during your breaks to improve productivity and concentration.

### Special Occasions/Holidays

- Let others know exercise is a priority for you and ask for their support.
- Combine social activities with exercise, such as dancing, ice skating, hiking, and cycling.

### Injuries and Sickness

- Look for a substitute activity—water aerobics, stationary cycling, chair aerobics.
- Do not break your routine. Continue to set aside time for exercise.
- Never exercise when you have a fever.
- Gradually build back up once you are well.

### Family Responsibilities

- Find opportunities for you and your family to exercise together.
- Go for a walk together and use the time to talk.
- Serve as an active role model for other family members.

### Motivation

- Get help from those around you.
- Ask someone to remind you to exercise.
- Make yourself accountable to someone else. Report your progress to them or better yet, plan to exercise together.
- Join an exercise group or class.

# SEASONAL CONSIDERATIONS

## Winter Challenges

Cold air causes the skin's blood vessels to tighten and narrow to prevent heat loss. This increases your blood pressure and therefore the work your heart must do.

When we exercise in the cold, we usually breathe through our mouth. The cold air can irritate the air passages, making it harder to breathe. The nerves in the air passages may tighten and cause a reflex spasm or tightening of the coronary vessels. This could make some people more likely to have angina.

## TIPS FOR EXERCISING IN THE COLD

### Choose Your Timing

Exercise in the middle of the day when it is warmer and try to avoid times when the wind is blowing hard.

### Clothing

Dress in layers. Cover your head and if you can tolerate it, try wearing a loose scarf over your face to warm up the air before it reaches your lungs.

### Reduce your Pace

You may need to walk slower when it is colder, the wind is blowing or there is snow on the ground.

### Medication

Remember some of your medications, such as beta-blockers, can make you less tolerant to the cold. You may find your hands and your feet get cold faster than in the past.

### Indoor Options

It is always a good idea to have a place to exercise indoors on days when it is too cold and windy, there is too much snow or it is icy outside.

## SNOW SHOVELLING

Snow shovelling is hard work and can be harmful to your heart for a number of reasons. It can place higher demands on your heart and your blood pressure may climb to dangerous heights to maintain blood flow to your heart muscle.

There are many factors to consider when assessing your shovelling workload, such as:

- the weight of the snow: dry and light versus wet and heavy.
- the size and weight of the shovel.
- your pace or speed of shoveling.
- your technique: are you using your legs and weight to push the snow or are you mostly using your arms?

MET (metabolic equivalent of a task) is a measure of physical exertion. At rest, you exert 1 MET. The effort needed for different levels of shovelling are written below.

COMPARABLE WORKLOADS		
Moderate Snow Shovelling (5–7 METS)	Heavy Snow Shovelling (7–9 METS)	Very Heavy Snow Shovelling (10 METS)
Climbing stairs at a fairly fast pace of 4.5–5 mph.	Jogging 5 mph.	Running more than 6 mph.
Digging in the garden.	Sawing wood.	Carrying loads up stairs.

## RECOMMENDATIONS

For most heart patients, snow shovelling is not recommended. If possible, arrange for someone else to do the snow removal for you. If you are going to shovel snow, consider the following guidelines to make the activity safer.

- Warm-up before the activity.
- Cool-down gradually afterwards.
- Allow plenty of time to avoid rushing and stress and take breaks as needed.
- Wait one hour after a meal before snow shovelling.
- Use a light, smaller shovel.
- Limit the amount of snow in the shovel.
- Don't lift the shovel too high.
- Use your leg muscles to assist in the activity, do not just use your arms.

## Summer Heat

Exercising in the heat can put a lot of stress on your body to maintain a core temperature and fluid balance. As you exercise, you generate more heat and your body temperature increases. To compensate, blood flow is directed to the skin and sweat at the skin surface evaporates and cools the body.

In this way, body temperature returns to normal. However, environmental factors such as bright sunlight, high humidity and lack of wind challenge your body's ability to dissipate heat and maintain a normal body temperature.

You should be aware of the following signs and symptoms your body is having difficulty coping with the heat: chills, nausea, dizziness, weakness, loss of coordination, profuse sweating but cool and clammy skin.

### TIPS FOR EXERCISING IN WARM WEATHER

#### Stay Hydrated

Simply drinking water when you are thirsty is not enough to offset the fluid lost during exercise. Drink plenty of fluids before, during and after your exercise.

#### Choose Your Timing

Avoid exercising in the heat of the day. Instead, choose to exercise early in the morning or in the evening during the coolest part of the day.

#### Clothing

Clothes should be light coloured, loose and comfortable. There are unique fabrics that offer UV protection and are lightweight and breathable. Some other fabrics are designed to keep you cool and dry; these include Dri-Fit™ and Omni-Dry™. Wear a hat to limit sun exposure.

#### Wear Sunscreen

Apply sunscreen to prevent sunburn. A sunburn can decrease the body's ability to cool itself.

#### Reduce Your Pace

You may need to reduce your pace for the first few weeks when the weather is warm. It generally takes 7-14 days to acclimatize to the heat. There may be times when the heat and humidity are too high to exercise outdoors. Make sure you have an indoor option for exercise at these times. You can even stroll around an air-conditioned mall.

### MEDICATION

Certain chronic diseases such as high blood pressure, diabetes and heart disease can impair your body's ability to regulate temperature, thereby increasing your risk of heat injury. Some medications can also impair your body's ability to regulate body temperature. Examples include beta blockers, diuretics, vasodilators and anti-depressants.

Be sure to ask your physician if any of your medications affect your ability to exercise in the heat. You may need to exercise earlier or later in the day or find an indoor option.

## Air Pollution Considerations

People with heart disease are more likely to experience negative health effects from air pollution. Short-term exposure (hours to days) to air pollution can trigger or aggravate symptoms.

The Air Quality Health Index (AQHI) is a colour-coded scale from one to 10+ designed to help you understand what the air quality around you means to your health, and help protect you from the health effects of air pollution.

When the AQHI is elevated, some people with heart, lung or other chronic conditions may have more symptoms than they usually experience when exercising outdoors. To avoid this, consider moving your exercise indoors, or reducing the intensity or duration of your exercise session.

HEALTH RISK	AIR QUALITY HEALTH INDEX	HEALTH MESSAGES	
		AT RISK POPULATION*	GENERAL POPULATION
Low Risk	1 - 3	<b>Enjoy</b> your usual outdoor activities.	<b>Ideal</b> air quality for outdoor activities.
Moderate Risk	4 - 6	<b>Consider</b> reducing or rescheduling strenuous activities outdoors if you are experiencing symptoms.	<b>No need to modify</b> your usual outdoor activities unless you experience symptoms such as coughing and throat irritation.
High Risk	7 - 10	<b>Reduce or reschedule</b> strenuous activities outdoors. Children and the elderly should also take it easy.	<b>Consider</b> reducing or rescheduling strenuous activities outdoors if you experience symptoms such as coughing and throat irritation.
Very High Risk		Above 10	<b>Avoid</b> strenuous activities outdoors. Children and the elderly should also avoid outdoor physical exertion. <b>Reduce or reschedule</b> strenuous activities outdoors, especially if you experience symptoms such as coughing and throat irritation.

You can find out what the AQHI is in your community by:

- watching the Weather Network or visiting [www.theweathernetwork.com](http://www.theweathernetwork.com), for updated current and forecasted AQHI levels.
- visiting [www.weather.gc.ca](http://www.weather.gc.ca) OR [airhealth.ca](http://airhealth.ca) for current and forecasted AQHI levels.

For those in the Ottawa region, call Ottawa Public Health at 613-580-6744, (TTY: 613-580-9656.)

There is an Air Quality Health Index National App which provides up-to-date daily risk levels. Look for it in the App Store.

# STRETCHING TO IMPROVE FLEXIBILITY

## FACTS

- Stretching can help improve your flexibility at any age.
- Being more flexible makes everything you do easier, more comfortable.
- You can stretch at any time but the best time is after a workout when your muscles and tendons are warmed up.
- Movement, such as easy aerobic physical activity is a more effective warm-up than stretching.
- No special equipment is required for stretching.

## WHY STRETCH

- As the body ages, muscles and tendons stiffen gradually, resulting in loss of flexibility and reduced function.
- Wear and tear of everyday stressors causes tension and stiffness in the muscles and joints, reducing the normal movement range and causing poor posture.
- Muscle tension can also be a reason for aches and pains throughout the body.

## BENEFITS

- Improved muscle and joint flexibility.
- Improved mobility.
- Better alignment and balance of the body.
- Better posture.
- Reduced risk of injury.
- Reduced muscle tension and stress.
- Increased energy.
- Improved mental clarity.

## How Often, How Hard, How Long, What Type?

**F – Frequency – How Often?** At least two to three times per week but stretching daily is the most effective.

**I – Intensity – How Hard?** Stretch to the point of feeling a pulling sensation, tightness, but no pain.

**T – Time – How Long?** Hold 30-60 seconds, repeat one to two times.

**T – Type:** Static (holding the position) is the most common type of stretching.

### HOW TO STRETCH

- Hold each position without bouncing or moving in and out of the position.
- Easy physical activity and deep breathing before stretching help to warm up the muscles.
- Breathing deeply during stretching further promotes relaxation of the muscles.
- Wear comfortable clothing.
- Allow ample time to make the stretching period relaxing.

**Please see appendix 1 for stretching exercises**

# STRENGTH TRAINING

A well-rounded exercise program will include aerobic exercise, stretching and muscle strengthening.

## Understand the Role of Strength Training in Health-Related Fitness

Body composition describes the makeup of the body in terms of muscle and fat. Muscle cells are metabolically active and burn calories even while you are at rest. In contrast, fat cells are metabolically inactive. Good body composition results from:

- aerobic exercise.
- healthy eating.
- strength training.

The more muscle you have, the more calories you will burn throughout the course of a day. Unfortunately, when you eat fewer calories without exercising, you usually lose both fat and muscle. Losing muscle causes the body's metabolism to slow down. This makes it harder for you to lose weight and to keep it off.

Strength training helps maintain muscle while losing fat, making it an important part of a weight management program. It helps prevent your metabolism from slowing down and may even cause it to speed up.

Benefits of strength training include:

- improved posture.
- better protection against injury.
- less pain in the back and joints.
- improved confidence.
- better self-image.
- stronger bones.
- improved function, especially in the older years.
- improved body composition (helps with long-term weight management).

## How Often, How Hard, How Long, What Type?

**F – Frequency – How Often?** You should exercise each major muscle group two or three days per week. There should be at least 48 hours of rest between strength training sessions to allow the muscles to rest and recover. You should not exercise the same muscle groups heavily for two days in a row.

**I – Intensity – How Hard?** You can use the RPE scale to judge the intensity of your strength workout. You should aim for an RPE of 12-15. During the first few weeks of your strength training program, do not exceed an RPE of 13. After that period, you may work up to an RPE of 15.

**T – Time – How Long?** The duration of your workout will depend on the number of exercises you perform and the number of times you repeat each exercise.

You should aim for 10 to 15 repetitions of each exercise and work up to two to four sets of the same exercise.

You should allow a brief period of rest (two to three minutes) between sets to allow the muscles to recover.

You can increase the intensity of your strength training workout in two ways:

1. Increase the number of repetitions of an exercise. Start with 10 repetitions and work up to 15.
2. Increase the weight or resistance of the exercise while doing the same number or fewer repetitions of the exercise. For example, when you can do 15 repetitions with a three-pound weight, do 10 repetitions with a five-pound weight.

**Note:** If your RPE is above 15, the weight or resistance is probably too much for you. Try either fewer repetitions or a lighter weight or resistance.

**T – Type – What kind of resistance?** Some examples include free weights, elastic bands, machine weights or your body weight against gravity (such as squats).

**Repetitions (reps)** are the number of times an exercise or lift is repeated during a set.

**Sets** are the number of times you repeat the whole sequence of exercises. A brief period of rest is allowed between sets for muscles to recover.

## Safety Tips

- Breathe properly. Do not hold your breath or grunt. Holding your breath and straining during strength training can significantly increase your blood pressure and make it harder for your heart to pump properly. Breathe out as you lift or push and breathe in as you return to the starting position.
- Always warm-up prior to strength training exercises. Move the joints through the movements you will do when you add weight or resistance. This prepares the joints and muscles for the work that is about to come. An easy way to warm up is to do a few repetitions of each exercise with a lighter weight or resistance.

- Take time to cool-down at the end of your strength training workout. Perform a few stretches to relax. Because your muscles are warm, stretching at the end of the workout is easier than at the beginning.
- Drink water before and during your strength training session, especially if it lasts more than 20 minutes.
- In general, you should begin with exercises that work the large muscle groups before proceeding to the smaller, individual muscles. For example, you should exercise the shoulder, back and chest muscles before working the arms (biceps and triceps).
- Alternate exercises requiring a “push” motion with those requiring a “pull” motion, when possible.
- Learn to do the exercises properly, using good form and posture. It is more important to do the exercise correctly than to add weight or resistance. You will make more progress and reduce your risk of injury.
- Work the joint through the full range of motion to build strength and improve flexibility.
- Take your time. Stress the muscle slowly and gradually. Allow approximately two to three seconds for each phase of a repetition. By returning the weight or rubber band to the starting position slowly, in a controlled fashion, you will get added benefit from each exercise.

**Please see appendices 2-5 for strengthening exercises**

If you are interested in a practical session, please look at our calendar and sign up for a strength training workshop.

## Yoga

Yoga is a physical, mental and spiritual practice or discipline which includes breath control, simple meditation, and the adoption of specific bodily postures for health and relaxation.

Yoga practice can:

- improve subjective well-being and quality of life.
- help reduce stress.
- decrease the sense of anxiety, fatigue and depression.
- improve sleep patterns.
- improve balance and flexibility.
- increase body strength, particularly leg strength.
- reduce the incidence of angina episodes.
- improve exercise capacity.

When accompanied by dietary changes, yoga can also:

- decrease body weight.
- decrease blood pressure in those with mild to moderate hypertension.
- decrease blood glucose, cholesterol and triglycerides.

At the Heart Institute Cardiac Prevention and Rehabilitation Centre, we offer an introduction session called Heart and Soul Yoga. It is a six-week session of gentle beginner yoga to help you determine if this is a good addition to your aerobic exercise program. Please speak to your physiotherapist or mentor if you are interested in joining this workshop. We can also provide you with a list of centres in the community offering ongoing yoga classes.

# GETTING AND STAYING MOTIVATED

It is never too late to start being active and get fit. Exercise can add years to your life and life to your years. It is an essential part of healthy living and we need to make room for it every day, just as we make room for eating and brushing our teeth.

As you build exercise into your everyday routine and exercise becomes more and more a part of your identity, you will find fitting it in is less of an effort.

## TIPS FOR GETTING MOTIVATED

- Choose a place and time that is **convenient** to you and is accessible daily. You will want to have a year-round plan, so you may have separate places for warm and cold months.
- Make it as **enjoyable** as you can! Involving a friend or your spouse can help. You could also take up a new sport or activity and meet new people.
- Make it **safe**. Start any exercise program by gradually building up your time, then increasing your intensity. As well, make sure you have a safe place to exercise.

## TIPS FOR MAKING IT STICK

### Focus on Your Reasons for Exercise

It is important to keep reminding yourself of the reasons why exercise is important to you.

### Set Goals

You can set daily, short-term, long-term and dream goals. Aim for something that is realistic. Make a specific goal for your first week and change it as you progress. Remember, the ultimate goal is 200 to 400 minutes of regular exercise each week.

### Think of the Benefits

To help you get started each time, think of how good you feel afterwards. Some people feel energized, others may feel more relaxed while others simply feel a sense of accomplishment.

### Believe in Yourself

Know you can do it. Believe in yourself. People who believe they have the skills and knowledge to exercise will stick to it.

### Use Positive Self-Talk

How you speak to yourself when you are tired or busy can make all the difference in whether or not you complete your workout that day.

### Get Support

Let others know what they can do to help you achieve your goals. It may be someone to exercise with, to provide advice or simply encourage you through difficult times.

### **Reward Yourself**

When you have reached milestones or achieved your short or long-term goal, reward yourself.

### **Eliminate Barriers**

Identify the barriers and temptations that prevent you from staying fit and actively work to eliminate them. Let the rehabilitation professionals help you, if needed.

### **Incorporate Variety**

Choose different activities depending on the season to add variety to your program. You could train in the off-season for the activity you enjoy most.

### **Monitor Yourself**

Pedometers measure your steps taken throughout the day. Attempt to reach 10,000 steps per day. You can also use a heart rate monitor to ensure you are exercising at an appropriate training level.

### **Keep a Log**

Use your appointment calendar and record the date, time, and place of your exercise. You can make it as detailed as you like.

The top four reasons people participate in fitness training are fitness, weight management, improved appearance and fun.

# APPENDIX 1: STRETCHING EXERCISES

- Move into the movement gradually until you feel a stretch but no pain.
- Hold each stretch 15-30 seconds. You can repeat up to 4 times until you have stretched for a total of 1 minute for each muscle.
- Breathe normally, do not hold your breath.
- Hold each position without bouncing or moving in and out of the position.
- For some exercises, you will find a standing and a sitting option. Use the one that feels most comfortable for you.
- You may not be able to do all of these stretches. If you have been told by your cardiac surgeon, cardiologist or any other health care provider to avoid certain movements, please continue to follow these recommendations and verify with us if you remain uncertain.

## STANDING CALF STRETCH

- Stand in front of a wall with one leg forward and one leg back, shoulder width apart, with toes pointing forward
- Keeping your back leg straight and your heels on the ground, lean forward, bending your front knee until you feel a stretch in the calf of your back leg



## SITTING CALF STRETCH

- Sitting with one leg straight out in front of you
- Wrap a long towel around the ball of your foot holding both ends of the towel
- Pull the towel towards yourself while keeping your knee straight until you feel a stretch in the back of your calf



*Pull foot towards you with towel, knee straight*

## STANDING QUADS STRETCH (FRONT OF THIGH)

- Stand holding on to a sturdy chair, wall or counter
- Standing on one leg, bend the other knee then hold your ankle and bring your heel toward your buttock until you feel a stretch in the front of your thigh
- Make sure to keep your knee pointing towards the floor
- Avoid bending your back backwards
- If you have difficulty reaching your ankle or cannot straighten out once you hold it, wrap a towel around your ankle and pull on the ends of the towel instead



*Pull heel to buttocks, avoid arching your back*

### SITTING QUADS STRETCH

- Sit sideways on a chair and slide the outside leg slightly off the chair
- Keep your toenails towards the floor and bring your knee back until you feel a stretch in the front of your thigh
- If needed, rest your knee on a pillow or block



*Bring knee backwards until you feel stretch in front of thigh*

### STANDING HAMSTRING STRETCH (BACK OF THIGH)

- Stand with one leg on a low stool as shown
- You can hold on to a chair, counter or wall to help with your balance
- Keeping your back straight, slowly lean forward, bending at the hips, until you feel a pull in the back of your thigh
- Make sure to keep your front knee straight



*Lean forward, bending from the hips*

### SITTING HAMSTRINGS STRETCH

- Sit on the edge of a chair and put one leg out in front with your heel on the floor
- Keep that knee straight
- Lean forward from the hips, keeping your back straight, until you feel a stretch in the back of your thigh
- Make sure you do not push with your hands on your knee to make it straight



### STANDING INNER THIGH STRETCH

- Begin in the side lunge position as shown
- Your leg should be out to the side and slightly behind you, both feet flat on the floor with the toes pointing forward
- Keeping your back straight, lunge deeper to the side until you feel a stretch along the inside of your straight leg



*Lunge to side until you feel stretch on inside of your leg*

### SITTING INNER THIGH STRETCH

- Sit on the edge of a chair (it is easier if it does not have armrests)
- Put one leg straight to the side, keeping your toes pointing forward
- Bend to the side, reaching towards the toes of your straight leg, keeping your shoulders pointing forward, until you feel a stretch in the inner part of your thigh



*Reach toward your toes*

## OUTER HIP STRETCH

- Sit with a straight back
- Have one knee crossed over the other as shown
- With your two hands, pull the top knee towards the opposite shoulder until you feel a stretch in the outer hip and buttock



*Bring knee towards opposite shoulder*

## KNEE TO CHEST (LOW BACK STRETCH)

- Lie on your back with your feet flat on the ground or bed
- Bring one knee towards your chest
- Pull your knee further with your hands on the back of your thigh
- Repeat with the other leg
- If you are comfortable doing so, you can bring both knees to your chest together
- Make sure you do not hold your breath



*Pull knee to chest*

## FRONT OF SHOULDER STRETCH

- Stand with your back straight and your shoulders down
- If needed you can also sit on a chair with no backrest
- Lock your fingers behind your back
- Keep the elbows straight and lift your arms backwards away from your buttocks until you feel a stretch in the front of your shoulders



*Lock fingers behind your back and lift your arms backwards*

## TRICEPS STRETCH

- Bend your elbow and bring it over your head
- Use your other hand to either push your elbow up or pull it back until you feel a stretch in the back of your arm



*Push or pull elbow up towards ceiling*

## BACK OF SHOULDER STRETCH

- Reach your arm across your chest
- Use your other hand to pull your elbow towards the opposite shoulder until you feel a stretch in the back of your shoulder



*Pull arm across chest*

## SHOULDER POSTERIOR STRETCH

- Reach your arm across your chest, placing your hand behind your opposite shoulder
- Use your other hand to pull your elbow towards the opposite shoulder until you feel a stretch in the back of your shoulder



*Bring arm straight across*

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## CHEST AND SHOULDER STRETCH

- Stand an arm's length from a wall
- Rest one hand against the wall at about shoulder height
- You can also grab the corner of a wall or door frame
- Keeping your elbow straight, turn away from the wall, keeping your arm behind you until you feel a stretch in the front of your shoulder and chest



*Turn away, keep elbow straight*

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## NECK SIDE BENDING STRETCH

- Sit or stand with good posture, shoulders down
- If sitting, hold onto the seat of a chair to anchor the shoulder down
- If standing, you can hold your hands together behind your back to keep the shoulder down
- Tuck your chin in gently (nodding yes)
- Bend your neck to the side bringing your ear towards your shoulder



*Bend neck to side, keeping your chin tucked in*

## APPENDIX 2: FREE WEIGHT EXERCISES

- These exercises use free weights or dumbbells as resistance.
- The majority of these exercises can be done in sitting or standing.
- If standing, place your feet shoulder width apart and keep your knees almost straight but not fully locked.
- Make sure that you keep your back straight, not bending forward or arching back.
- For many exercises, we recommend to only move one arm at a time to make it easier in terms of level of effort. You can either do all the repetitions on one side then switch to the other side or alternate right left.
- You may not be able to do all of these exercises. If you have been told by your cardiac surgeon, cardiologist or any other health care provider to avoid certain movements, please continue to follow these recommendations and verify with us if you remain uncertain.
- Remember that you should aim to do 1-3 sets of 10-15 repetitions.
- Breathe out as you make the effort and breathe in as you return to the starting position.

### FRONT SHOULDER RAISE

- Hold a free weight by your hip
- Keep elbow straight and shoulders relaxed
- You can have your palm facing in or down but not up
- Raise arm forward up to shoulder height
- Lower arm down slowly to start position
- Repeat with the other arm, alternating right and left



*Hold weight by side*



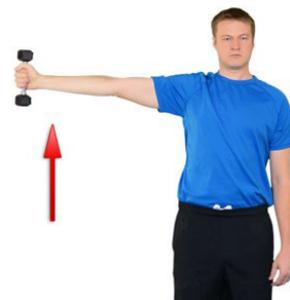
*Raise arm in front to shoulder height*

### SIDE SHOULDER RAISE

- Hold a free weight by your hip
- Keep elbow straight and shoulders relaxed
- You can have your palm facing forward or down but not up
- Raise arm to the side up to shoulder height
- Lower arm down slowly to start position
- Repeat with the other arm, alternating right and left



*Hold weight by side*



*Raise arm sideways to shoulder height*

## SHOULDER PRESS

- Hold a free weight at the level of your shoulders, elbows bent
- Push one weight straight up, toward ceiling, straightening your arm
- Slowly return to the start position
- Repeat with the other arm, alternating right and left



*Weights at level of shoulders*



*Press one arm toward ceiling*

## BENT OVER ROW

- Place one hand and one knee up on a bench or chair to brace yourself
- If this is not comfortable, you can stay standing and support your upper body by placing a forearm on the backrest of a chair or counter
- If using this last position, place one foot forward and bend at your hip to bring your trunk forward
- You can also do this exercise in sitting, placing your forearm on your thighs or a table in front of you
- Hold the weight in one hand, arm hanging straight at your side
- Squeeze the shoulder blades together
- Bend your elbow and lift it to just above your back
- Slowly return to the start position
- When you are done with the set on this side, do the same with the other arm



*Knee up on bench, back straight*



*Lift weight up to chest*

## ELBOW EXTENSION OR KICKBACK (TRICEPS)

- Place one hand and one knee on a bench or chair to brace yourself
- You can also use the same positions described for the previous exercise
- Hold the weight in one hand, your elbow bent and kept beside your trunk
- Straighten your elbow behind you
- Slowly return to the start position by bending your elbow
- You should be keeping your elbow up beside your trunk between your repetitions



*Lean forward and bring elbow up*



*Straighten elbow*

## ELBOW EXTENSION (OTHER OPTION)

- Hold a free weight in one hand behind your head with the elbow bent
- Straighten your elbow lifting the weight directly overhead
- Bend the elbow, lowering the weight back to start position



*Start Position*



*Straighten elbow*

## ELBOW FLEXION (BICEPS)

- Hold a free weight by your hip
- Turn your palm up to face the ceiling
- Bend your elbow upwards, bringing your hand toward your shoulder
- Slowly return to the start position



*Hold weight by side*



*Bend elbow with palm facing up*

## CHEST PRESS

- Lie on your back with feet flat on floor
- If you do not have a bench, lie on floor or bed with knees bent and feet flat on floor or bed
- Hold a free weight in each hand placed at the sides of your chest, palms facing forward, elbows out to sides
- Slowly push the weights all the way up, straightening arms
- Slowly lower weights to sides of chest



*Lie on bench, elbows to side*



*Press weights straight up*

## SHOULDER FLY

- Lie on your back with your feet flat on the floor
- If you do not have a bench, lie on floor or bed with knees bent and feet flat on floor or bed
- Hold freeweights out to sides and in line with your shoulders, elbows slightly bent
- Lock your elbows with the slight bend and lift weights up over centre of chest, moving from the shoulders
- Slowly lower weights back out to sides
- If using a bench, do not go down further than the level of your shoulders



*Place arms in cross position*



*Raise weights over chest*

## APPENDIX 3: CORE STRENGTHENING EXERCISES

- Core muscles are muscles of the center of your body (trunk and hips) that help to support and stabilize your body when you move.
- A strong core can help to improve posture, prevent or reduce back pain and improve athletic performance.
- Many core exercises can be done without any equipment.
- For most of these exercises, you will be doing repetitions as you have done for the exercises with free weights or bands. However, since the resistance for these exercises is your body weight, you will have to adjust how far you go into the movement to make it easier or harder.
- For some exercises, you can hold the position to make the exercise more difficult. Start with just a few seconds then increase the duration.
- Make sure that you do not hold your breath while you are holding a position.
- You may not be able to do all of these exercises. If you have been told by your cardiac surgeon, cardiologist or any other health care provider to avoid certain movements, please continue to follow these recommendations and verify with us if you remain uncertain. You typically have to wait 2-3 months after open heart surgery before you can go on your hands and knees.

### PELVIC TILT

- Lie on your back, feet flat, knees bent, arms relaxed at side with palms down
- For many people, you will notice a slight hollow in your low back (a gap between your low back and the floor or bed)
- Tighten your lower abdominal (belly) muscles to flatten your back against the bed or floor
- Hold this position without holding your breath
- Relax and return to the starting position, you may feel your low back lift off the supporting surface
- Once you have mastered this exercise in lying, you can use it in other positions to protect your back, especially during lifting
- You can make this exercise more difficult by moving your legs while keeping your back flat. Please ask us how to progress the exercise.



*Lie on back, knees bent*

*Tighten abdominal muscles to flatten your back*

## ABDOMINAL CRUNCH

- Lay on your back, knees bent, feet flat
- Arms forward with hands on your thighs
- Tighten your abdominal (belly) muscles to lift your shoulder blades and upper back off the floor or bed, sliding your hands along your thighs
- Slowly return your shoulders and upper back to the floor
- You can also support the weight of your head with your hands but make sure not to pull your head forward and strain your neck



*Lie on back, knees bent*



*Lift shoulder blades and upper back, reach for knees*

## SITTING ABDOMINAL CRUNCH (EASIER OPTION)

- You can do this exercise if the abdominal crunch on your back is too difficult
- Sit straight with your hips near the front of a sturdy chair
- Tighten your abdominal (belly) muscles and slowly lean back, letting your pelvis tip back and your spine curl
- Lean back as far as you can without losing control and falling back towards the backrest
- Return to a tall, straight position with your shoulders aligned directly over the hips



*Sit straight with hips near front of chair*



*Lean backwards*

## BRIDGE

- Lie flat on your back with your arms at your side
- Bend knees up so that your feet are flat on the floor or bed
- Lift your hips up toward the ceiling to make a bridge
- Lower down slowly, with control
- If this is easy, you can straighten out one leg once your hips are up



*Lie on back, knees bent*



*Lift hips up*

## FOUR POINT ARM AND LEG RAISE

- Start on your hands and knees, hips and shoulders at 90°
- Do a pelvic tilt as shown above to keep your back straight
- Lift one arm straight out in front and the opposite leg straight back at the same time
- If you keep your abdominal (belly) muscles) tight, you should not be able to lift your leg higher than your hip
- Bring the arm and leg down
- Repeat with the opposite arm and leg
- If you cannot kneel, you can do this same exercise, lying on your stomach with a pillow lengthwise under your chest and your hips



*Start on hands and knees*



*Lift one arm in front, lift opposite leg straight back*

## SIDE LEG RAISE, SIDE LYING

- Lie on side, keeping the bottom leg bent and the top leg straight
- Raise the top leg up, moving from the hip until your foot is just slightly higher than your top shoulder
- Make sure your foot stays pointing forward, not towards the ceiling
- Lower the leg down slowly
- If this exercise is too difficult, try it in standing instead



*Lie on side*



*Raise top leg from hip*

## SIDE LEG RAISE, STANDING (EASIER OPTION)

- Stand holding onto the backrest of a chair or counter at your side for support
- Lift the opposite leg out to the side, keeping your knee straight and your toes pointing forward
- Stop if you start to lean sideways or bend at your trunk
- Slowly return to the start position
- This exercise can also be done with an elastic band



*Stand holding chair or counter for support*



*Lift leg out to side, do not lean with your trunk*

## SQUAT

- Stand with your feet shoulder width apart and toes pointing forward
- Keep more weight over heels than toes
- Squat down by bending at hips and knees
- Keep your back flat, your knees over your toes and your head up
- Only go down as far as is comfortable for you
- Return to a standing position
- If needed, you can hold onto the backrest of a chair placed in front of you to help with balance
- You can use weights to make this exercise more difficult



*Stand with feet shoulder width apart, toes pointing forward*



*Bend at hips and knees, keep your head up*



*Keep your back flat and your knees over your toes*

## LUNGE FORWARD

- Stand tall with your back straight
- Take a big step forward with one leg
- Bend both knees to bring the back knee towards the floor
- Only go down as far as is comfortable for you
- Keep most of the weight in the heel of the front foot
- It will be easier to do all the repetitions on one side by just going up and down without switching leg positions between repetitions
- You can progress by bringing the front foot back beside the other foot between each repetition and alternating sides
- If needed, you can hold onto the backrest of a chair placed beside you to help with balance
- You can use weights to make this exercise more difficult



*Stand straight*



*Lunge forward with one foot*

## FRONT PLANK

- Lie on your stomach with your arms at your sides, elbows bent
- Push yourself up onto your forearms and your toes, making your body flat as a plank from head to feet
- Keep the trunk muscles tight and do not let your lower back arch
- Remember to keep breathing as you hold this position
- As your endurance increases, you will be able to hold longer
- If this position is too hard, you can start on your knees instead of your toes
- You can also do the plank on your hands with your elbows straight instead of on your forearms



*Start on stomach*



*Push up into plank on forearms and feet*

## PUSH UPS ON FLOOR

- Lie on your stomach with your hands beside your shoulders
- Push yourself up onto your hands and toes, making your body flat as a plank from head to feet
- Lower your body down slowly, with control
- If this position is too hard, you can start on your knees instead of your toes
- If this is still too hard or you are just recovering from open heart surgery, start with the push-ups on the wall



*Lie on stomach, hands by shoulders*



*Push up into plank on hands and toes*

## PUSH UPS ON WALL (EASIER OPTION)

- Wear shoes that will not slide on the floor or stay barefoot
- Stand arm-length in front of a wall with your palms on the wall at shoulder height
- Tighten your back, abdominal (belly) and buttock muscles
- Keep your body flat as a plank from head to feet
- Lean forward toward the wall, using your arms to control the movement
- Touch your nose to the wall
- Push away from the wall to slowly return to the start position



*Stand at arms length from wall with arms straight*



*Bend elbows to lower yourself towards the wall then push away from the wall*

# APPENDIX 4: ELASTIC BAND EXERCISES

- These exercises use elastic bands or tubing as resistance.
- The thickness of the band or tubing will determine the amount of resistance. Each brand will have different colours to indicate the resistance.
- Some elastics are sold with handles which can make it easier to hold them.
- The majority of these exercises can be done in sitting or standing.
- Always control the band, move slowly away from your body and when returning to the start position. Do not let the band snap back.
- Keeping the band longer between the anchor point and your hand or foot will make the exercise easier. Making the band shorter will increase the difficulty.
- When using bands, it is usually more practical to do all the repetitions on one side then switch to the other side instead of alternating right and left as often done with free weights.
- If standing, place your feet shoulder width apart and keep your knees almost straight but not fully locked.
- Make sure that you keep your back straight, not bending forward or arching back.
- Only perform the leg exercises in standing if your balance allows you to do so safely.
- You should inspect your band prior to each use as they can start to tear.
- You may not be able to do all of these exercises. If you have been told by your cardiac surgeon, cardiologist or any other health care provider to avoid certain movements, please continue to follow these recommendations and verify with us if you remain uncertain.
- Remember that you should aim to do 1-3 sets of 10-15 repetitions.
- Breathe out as you make the effort and breathe in as you return to the starting position.

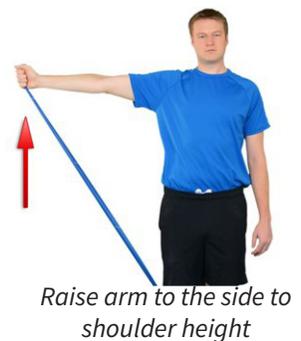
## FRONT SHOULDER RAISE

- Place one end of the band under one foot
- Hold the other end in your hand on the same side with your arm by your side
- Your arm should be turned so that your thumb is towards the ceiling
- Lift your arm forward, up to shoulder height, keeping the elbow straight
- Slowly return to the start position
- When you are done the repetitions on this side, repeat with the other arm



## SIDE SHOULDER RAISE

- Place one end of the band under one foot
- Hold the other end in your hand on the opposite side with your arm by your side
- Your arm should be turned so that your thumb is towards the ceiling
- Lift your arm out straight out to the side, up to shoulder height, keeping the elbow straight
- Slowly return to the start position
- When you are done the repetitions on this side, repeat with the other arm



## CHEST PRESS

- Loop the band around your upper back
- Hold both ends with your hands in front of your shoulders and the elbows bent
- If you find that the band rolls up towards your neck when doing this exercise, place it under your arms near the armpits instead of over your arms and shoulders
- Press the arms forward to straighten the elbows
- Bend the elbows to return to the start position



## SEATED ROW (FOR MIDDLE BACK)

- Preparation: Sit near the front of your chair with a space between your back and the backrest
- Put one leg (or both legs) straight out in front, letting the heel rest on the floor
- Loop the band around this foot (or feet) and hold the ends in both hands
- Keep the elbows low and close to your body
- Squeeze your shoulder blades together
- Bend the elbows and pull the hands back, keeping the hands low, close to your thigh
- Slowly return to the start position



## T-ROW ( FOR UPPER BACK)

- Hold the band in both hands with your arms at shoulder height, elbows almost straight, palms down
- Make sure to keep your shoulders down
- Squeeze your shoulder blades together and pull the arms apart
- Slowly return to the start position



*Hold band in front at shoulder height*



*Squeeze shoulder blades*



*Spread arms*

---

## SHOULDER PRESS

- Remember, it is easier to do one arm at a time
- Put one end of the band under your foot and hold the other end in the hand on the same side
- Start with the elbow bent and your hand just above your shoulder
- Press the arm up toward the ceiling, straightening the elbow. Slowly return to the start position
- When you are done the repetitions on this side, repeat with the other arm



*Put one hand up above your shoulder with the elbow bent*



*Press one arm overhead*

---

## ELBOW FLEXION (BICEPS)

- Place one end of the band under one foot
- Hold the other end in your hand on the same side with your arm by your side and your palm facing forwards
- Bend your elbow up towards your chest
- Slowly return to the start position
- When you are done the repetitions on this side, repeat with the other arm



*Hold band, palm facing forwards*



*Bend elbow up*

## ELBOW EXTENSION (TRICEPS)

- Hold one end of the band in one hand near your hip or in the small of your back
- Hold the other end in the opposite hand in front of your shoulder with your elbow bent
- The band should be passing in your back as shown
- Straighten the front elbow
- Slowly return to the starting position
- When you are done the repetitions on this side, repeat with the other arm



*Loop band around your back*



*Straighten elbow*

## KNEE EXTENSION (QUADS)

- Sit in a chair
- Tie one end of the band to the leg of the chair
- Tie the other end to your foot or ankle on the same side
- Tighten the muscle in the front of your thigh and straighten your knee, lifting up your foot
- Slowly bend your knee to return to the start position
- When you are done the repetitions on this side, repeat with the other leg



*Sit in a chair with band around your ankle*



*Straighten knee*

## KNEE FLEXION (HAMSTRINGS)

- Stand holding onto a sturdy chair or counter for support
- Place one end of the band under one foot
- Tie the other around the heel/ankle of the opposite leg
- Lift your heel up towards your buttock as far as you can, bending your knee
- Slowly lower your heel down towards the floor, straightening your knee
- When you are done the repetitions on this side, repeat with the other leg



*Place band under one foot, tie around opposite ankle*



*Bend knee*

## HIP EXTENSION (FOR BACK AND BUTTOCK MUSCLES)

- Stand holding onto a sturdy chair, table or a banister for support (not in the stairs)
- Tie one end of the band to the leg of the chair or table or the spindle of the banister
- Tie the other end around one ankle
- Lift this leg behind you, keeping your knee straight
- Make sure that you keep your back flat, do not arch it backwards
- Slowly return to the start position



*Hold onto sturdy chair, table or banister*



*Tighten buttocks, lift leg behind*

## LATERAL LEG RAISE (HIP ABDUCTION)

- Stand holding onto a sturdy chair, table or a banister for support (not in the stairs)
- Tie one end of the band to the leg of the chair or table or the spindle of the banister
- Tie the other end around one ankle
- Lift your leg out to the side, keeping your toes pointing forward
- Stop if your trunk starts to lean or bend
- Slowly return to the starting position



*Hold onto sturdy chair, table or banister*



*Lift leg to side*



## APPENDIX 6: PHYSICAL ACTIVITY LOG

Use this log to keep track of your physical activity, especially your aerobic exercise. For the tracking column, you can write in anything that helps you monitor your progress. For example, it can be the steps per day, your speed on your exercise equipment, the number of laps at the pool, etc. You should add up your minutes of exercise for the week.

Week ____	Date	Activity/location	Minutes	Tracking	RPE	Heart rate
Monday						
Tuesday						
Wednesday						
Thursday						
Friday						
Saturday						
Sunday						
<b>Total</b>						

Week ____	Date	Activity/location	Minutes	Tracking	RPE	Heart rate
Monday						
Tuesday						
Wednesday						
Thursday						
Friday						
Saturday						
Sunday						
<b>Total</b>						

Week ____	Date	Activity/location	Minutes	Tracking	RPE	Heart rate
Monday						
Tuesday						
Wednesday						
Thursday						
Friday						
Saturday						
Sunday						
<b>Total</b>						

Week ____	Date	Activity/location	Minutes	Tracking	RPE	Heart rate
Monday						
Tuesday						
Wednesday						
Thursday						
Friday						
Saturday						
Sunday						
<b>Total</b>						

Week ____	Date	Activity/location	Minutes	Tracking	RPE	Heart rate
Monday						
Tuesday						
Wednesday						
Thursday						
Friday						
Saturday						
Sunday						
<b>Total</b>						

Week ____	Date	Activity/location	Minutes	Tracking	RPE	Heart rate
Monday						
Tuesday						
Wednesday						
Thursday						
Friday						
Saturday						
Sunday						
<b>Total</b>						

Week ____	Date	Activity/location	Minutes	Tracking	RPE	Heart rate
Monday						
Tuesday						
Wednesday						
Thursday						
Friday						
Saturday						
Sunday						
<b>Total</b>						

# APPENDIX 7: ORIENTATION TO EXERCISES CLASSES

## What to Bring

- Comfortable clothes and clean indoor walking or running shoes.
- Your own lock, for use with the change room lockers during your class.
- Your own toiletries and towel, if you wish to have a shower after class.
- A water bottle, which you can refill at the water fountain.

## Important Information

- Check the white board for exercise class cancellations.
- If you are sick, please do not come to class. Call your physiotherapist to discuss.
- The Heart Institute is a scent-free environment. Please do not wear cologne or perfume in the track area.

## If You Are Diabetic

- Bring your glucometer to class if you are taking medication for your diabetes. We will ask you to measure your blood sugar before and after exercise for at least two classes.

## What to Expect on Your First Day

- After changing, come to the desk on the track to meet your physiotherapist who will explain the class routine, show you around and discuss your exercise plan with you.
- Your physiotherapist will show you how to fill out your exercise record. It will be kept in a brown file folder and will remain at the track.
- You will be provided with a name tag which will also remain at the track. Please wear it at all times during classes for safety purposes.
- Classes begin with a warm-up. Depending on the class, this may be slow walking on the track or group exercise led by the physiotherapist. This is a very important part of your exercise routine. All classes end with a group cool-down led by the physiotherapist.
- There are heart rate monitors available for use during class. Speak to your physiotherapist if you would like to try one.
- If you are interested in joining any of our workshops, speak to your physiotherapist about registering.

## Track Rules for Onsite Classes

1. Before exercise class, you must tell the staff if you have had:
  - new or changing symptoms.
  - An admission to the hospital.
  - An assessment in the emergency department.
  - Medication or dosage changes.
  - any change in your medical condition.
2. During class, stop your exercise and inform staff immediately if you experience:angina or any other discomfort.
  - light-headedness or dizziness.
  - shortness of breath.
  - any other unusual signs or symptoms.
3. Speak to staff before using nitroglycerin.
4. Do not come to class if you are sick.
5. Warm-up and exercise only during your one-hour class time.
6. Speak to your physiotherapist before using any exercise equipment for the first time.
7. After using a piece of exercise equipment, please wipe down the seat, handles and display with the disinfectant wipes provided.
8. We also ask you use the hand sanitizers provided to disinfect your hands before class and after using the exercise equipment.
9. Cell phones must be turned off during exercise classes.

# APPENDIX 8: CASE-MANAGED HOME PROGRAM

## ***What We Will Do – Mentor and Cardiac Rehabilitation Team Responsibilities***

- Assess your cardiovascular risks and identify target areas for change.
- Help you set realistic health, fitness, and weight management goals.
- Provide an individualized program and contact you on a regular basis.
- Teach important skills and concepts in an easy-to-understand way.
- Reassess your progress and adjust your program as needed.
- Keep your records confidential and respect your privacy.
- Check your satisfaction with the program.

## ***What You Will Do – Participant Responsibilities***

- Participate in the program on a regular basis.
- Complete the suggested readings between appointments.
- Report any unusual health problems, symptoms or injuries that occur.
- Report any medication changes.
- Be on time for all scheduled appointments.
- Be available weekdays for appointments.
- **Notify your mentor within 24 hours if you are unable to keep an appointment.**
- **Contact your mentor to schedule your next contact if you miss a call.**

## **Attendance and Discharge Policies**

- The three-month program usually involves 11 contacts (one onsite visit and 10 phone calls). The call frequency may be adjusted as negotiated between you and your mentor.
- It is important you accept only those appointments you intend to keep. If you want to stop the program, please notify your mentor.
- We may close your file if there has been no contact with you for more than **two weeks** unless previously agreed upon with your mentor.

## **You can reach your Case-Managed Home Program mentor at 613-696-7000:**

Sandra: Ext. 16776

Guy-Anne: Ext. 18177

Gareth: Ext. 19383

Farnaz: Ext. 17949

# Cardiac Rehabilitation: Staying On Track

**Congratulations on completing the program and for making a commitment to a heart healthy lifestyle! Please keep this on your fridge or somewhere you can see it easily.**

## Green Zone (All Clear)

- **Symptoms:** Feeling well, not having any cardiac symptoms
- **Physical Activity:** Exercising daily (200-400 minutes of aerobic activity per week).
- **Nutrition:** Eating a variety of heart healthy foods.
- **Managing Emotions:** Having a good sense of balance between your personal and work life; able to find time to relax; using your stress management techniques.
- **Sleep & Rest:** Satisfied with sleep; feeling rested.
- **Medications:** Understanding & taking your medications regularly.
- **Smoking:** Remaining smoke-free, managing cravings.

## If you are in the Green Zone:

- Keep up the good work; you are on track with your heart healthy lifestyle.
- Continue to follow your plan.
- Collaborate with your healthcare team.

## Yellow Zone (Caution!)

- **Symptoms:** Feeling some chest pain, shortness of breath or other discomfort, but not sure if it is your heart
- **Physical Activity:** Exercising less than 150 minutes of aerobic activity per week.
- **Nutrition:** Eating mostly heart healthy foods but still not sure what is best.
- **Managing Emotions:** Feeling a sense of loss of control and pre-occupied with challenging or difficult thoughts and emotions.
- **Sleep & Rest:** Sleep disrupted; frequent awakenings; hard to fall asleep some nights.
- **Medications:** Occasionally not taking medication.
- **Smoking:** Struggling with cravings; occasionally using tobacco.

## If you are in the Yellow Zone:

- Contact your family doctor if you are concerned about your symptoms.
- Try a Heart Wise Exercise program at [heartwise.ottawaheart.ca](http://heartwise.ottawaheart.ca) to help you stay physically active.
- Attend free Nutrition Workshops (visit the workshop calendar: [www.ottawaheart.ca/events-calendar](http://www.ottawaheart.ca/events-calendar))
- Consider taking part in a stress management program (visit calendar link above, or seek resources in your community).
- Ask your pharmacist to help you understand your medications (including how to deal with side effects)
- Contact the Quit Smoking Program at 613-696-7069

## Red Zone (Alert!)

- **Symptoms:** Feeling new angina or unrelieved heart symptoms, even with rest.
- **Physical Activity:** Not exercising regularly.
- **Nutrition:** Struggling to eat a variety of heart healthy foods.
- **Managing Emotions:** Feeling agitated, impatient, overwhelmed and/or short-fused. You may find that you are also feeling anxious or depressed.
- **Sleep & Rest:** Sleep significantly disrupted; not feeling rested during the day; waking up often and great difficulty falling asleep.
- **Medications:** Not taking medications as prescribed.
- **Smoking:** Still smoking; unable to quit.

## If you are in the RED ZONE:

- If you have coronary artery disease and have been advised to use nitro spray, please follow the directions as prescribed by your doctor.
- If you're feeling unrelieved cardiac symptoms, call 911: you need immediate medical attention.
- If you're having a tough time staying on track with your exercise or nutrition, or if you're still smoking, talk to your family doctor about programs or support groups in the community that might be helpful.
- Consult with your family doctor or your cardiac rehab team for advice on reducing and managing your stress.

