

Healthy Choices when Exercising

**Acknowledgements to be given to the
CDHA Pain Self Management Program
and
The Canadian Diabetes Association (diabetes.ca)**

<http://www.youtube.com/watch?v=-6D6fpQLh3s&list=PL47EDB7FF46D0445E>

Beliefs about exercise

Why Move? Movement is a basic human need. Think of exercise as the practice of moving your body and it is necessary for weight loss and a healthy lifestyle.

Some reasons why people do not have success with exercise are due to fear and anxiety. Fear of pain, shortness of breath and possible injury can lead to fear of movement and then choosing not to move. As you become less active, you become less fit. The less fit you are the less able you will be to move.

Some thoughts you may have about exercising are:

- I don't like to exercise
- I'm too tired all the time
- I don't have the time
- I have too many aches and pains
- It's too hot or cold outside
- I can never stick to an exercise program so why bother
- It's too late...my body is so out of shape
- I don't know how to start an exercise program
- I am afraid of hurting myself
- I'm afraid of getting out of breath

When you are able to do fewer activities, you will more likely have feelings of sadness and loss, which feeds into the cycle of fear of movement. Gradual and consistent exercise and movement can help break this cycle.

Benefits of Exercise

So, why are exercise and movement so important?

Exercise helps keep joints moving
Exercise helps strengthen muscles which protect the joints
Exercise helps stretch muscles
Exercise helps mood
Exercise helps your level of energy.
Exercise helps balance your appetite and body functions.
Exercise helps prevent bone loss
Exercise helps sleep.
Exercise helps blood flow and heart health.
Exercise helps you to carry out your day to day tasks.
Exercise helps you gain control over one aspect of your life.

When someone does an activity they are not already doing regularly, they are likely to have muscle soreness. It is important to remember that some muscle soreness is normal when performing new activities.

Exercise and Mobility

Regular exercise can help improve your ability to perform tasks.

Everyday tasks require aerobic ability, strength, flexibility, and balance.

Exercise, when approached in a manner that respects your starting point (**baseline**) and builds from it in a gradual way (**pacing**) is a path to a more active lifestyle, more fitness and weight loss.

Exercise will help you increase your activity tolerance.

Most people want to have a life that includes more activity.

Aerobic/Cardiovascular Exercise

This activity improves the strength of your heart and lungs.

This is done by increasing your heart rate and breathing rate during exercise while working within your baseline for that exercise. This type of exercise is necessary to include in a weight reduction program.

Some examples of aerobic type of exercises are seated aerobics, walking, walking using walking poles, aqua-exercises, low impact aerobics, riding a bicycle, moving to music, cardio drumming, and some types of computer simulated activities.

Strength

These are exercises that improve tissue tolerance, endurance and power.

Postural muscles or core muscles are the deep layer of muscles that help support the spine and body during movement. They are meant to be active or turned on whenever we are standing, sitting and moving. This type of strength is endurance.

Becoming aware of these muscles and tightening them during daily tasks can help improve their ability to work and help prevent injury.

Global muscles are the bigger, thicker muscles that are meant to help support and move our body against the forces of gravity, or when carrying a load. This type of strength is called power. This type of exercise is also important for weight loss.

Flexibility

These are movements designed to increase the range of movement of your body.

Muscles can limit movement by becoming tense or by becoming shortened.

Muscles get tense when they are being protective or muscles become short when they are not being used at their full length or when scar tissue interferes with their ability to stretch.

There are several ways that you can increase your flexibility:

- Move your body gently through the full range of movement that it can perform while remembering to breathe.
- Do small oscillatory or rocking type movements.
- Do regular muscle stretches

To stretch a short muscle, a gentle, held stretch can be used, e.g.: put heat on the muscle group and maintain the position for 10-30 seconds. Progress will be slow as the tissues have to change, so it may take months to see a difference. It may be necessary to start with shorter holding times as you build up your tolerance for the position.

Joint structures can also limit range of movement and they can be stretched in the same way as shortened muscles. **Do not force a stretch or overstretch.**

Control and Balance

These are exercises designed to help with the body's sense of moving in space and being upright against gravity. All our senses help give information about our environment which in turn play a role in how much effort will be needed for us to balance and coordinate our movements, e.g. walking on a gravel driveway and sitting in a boat or riding a motorcycle are more challenging than walking on pavement and sitting in a chair. Start by finding an activity that you find challenges your balance or movement skills but you feel safe doing. You can improve your balance and control by repeating the movement, increasing the amount of time doing the movement or by doing more difficult movements.

How to Exercise Safely

Pacing your efforts is important when you exercise. The goal is to find the **baseline** of the activity suitable for your heart, lungs, muscles, bones, tendons and nervous system. This way you can exercise safely and avoid injuring yourself.

- Try not to maintain any one position e.g. sitting, standing, lying down for longer than 15 minutes
- **Stop** and take a break from the activity.
- Decide how long of a break you need.
- Decide what you need to do on this break. Do you need to change your position or change your activity?

Heart rate can be another effective tool in measuring your starting level and monitoring safe progress after you begin a fitness program. This approach requires measuring your pulse periodically as you exercise to be sure you are staying within your target heart rate zone. This range is your **baseline or safety zone**.

Modified Target Heart Rate

A modified heart rate scale can be used for people with the following “conditions”:

- Cardiac Disease
- COPD
- Diabetes
- Obesity
- Smoking
- Males over 40
- Females over 50
- Long term pain
- People who do not exercise regularly

Finding Modified Target Heart Rate

Modified Target Heart Rate	Take your resting heart rate for 15 seconds	Add 5	This becomes your Target Heart Rate
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Resting Heart Rate in 15 seconds

Target Heart Rate in 15 seconds

Perceived exertion is used by people who may find it difficult to measure their pulse (e.g. decreased sensation in finger tips), do not want to take their pulse when exercising, or are on medications that affect their heart rate such as beta blockers. A simple way is to use a “conversational pace” to monitor your efforts when you are doing moderate activities like walking. If you can talk and walk at the same time, you are not working too hard. If you get out of breath quickly, you are probably working too hard, especially if you actually have to stop and catch your breath.

How do I get started?

- Start at home with daily activities
- Pace your activities Do/Rest/Do
- Do small amounts at a time which can add up
- Repeat these throughout the day
- Be consistent
- Progress by the 10 percent rule
- Use different muscle groups
- Do different types of exercise
- Do low-impact exercise
- Talk to a movement specialist
- Wear supportive footwear and comfortable clothing
- Drink 6-8 glasses of water per day

Exercise: How Much?

A graduated exercise program using baseline and pacing to reach a long term goal of accumulated aerobic exercise of 150 minutes per week (e.g. 30 minutes 5 times per week) and 20-30 minutes of strength training 2-3 times per week. This amount of exercise is suggested by the Canadian Diabetes Association and Health Canada. Check out their website and note the Clinical Practice Guidelines (CPG) of the Canadian Diabetes Association for physical activity and exercise.

- 5 minutes walk, 6 times a day=30minutes
- 10 minutes walk, 3 times a day=30 minutes
- 20 minutes walk, 20 minutes swim=40 minutes

Suggestions to progress an aerobic activity: **Choose one at a time!**

- Add 10 % of the time each week or two.
e.g. 10 minutes plus 1 minute = 11 minute
- Add 10 % of the distance you have been going.
e. g. 1 kilometer becomes 1.1 kilometer
- Increase how often you work out.
e.g. exercise done 2 - 3 times per week becomes
3 4 times per week
- Change the incline or speed
Be sure to stay within your target heart rate zone

Another suggestion is to purchase a pedometer and aim for approximately 10,000 steps per day.

To progress strengthening exercises using weights or resistance such as thera-band or tubing, set a long term goal for being able to do 3 sets of 10-15 repetitions with your desired weight or resistance. You can begin by doing 1-2 sets of 5 repetitions against gravity with a light weight or resistance such as tubing. Gradually progress the exercise by adding one repetition per week until you get to 3 sets of 15 repetitions. When weight or resistance is added, decrease the number of repetitions and start again.

For instruction regarding resisted movement follow the Diabetes Exercise toolkit link:

<http://www.youtube.com/watch?v=-6D6fpQLh3s&list=PL47EDB7FF46D0445F>

Safety Considerations if you have Diabetes

(Information from the Canadian Diabetes Association website (diabetes.ca)

Physical activity and diabetes)

- Work closely with your doctor, nurse or medical team to assist you with adjustments of insulin or other hypoglycemic medications that may need to be made during or before exercising.
- Plan your exercise sessions so you can take the appropriate measures in terms of the timing, type, duration and intensity of exercise.
- Strive for good blood glucose control and learn your body's response to exercise.
- Be aware of the signs and symptoms of high or low blood sugar and how to treat them.
- Test blood sugars before, during and many hours (4-5 hours) after exercising if you are on insulin or other medications that lower your blood sugar. Record your results.
- Do not inject insulin into muscles that are being used to exercise.
- For moderate to vigorous exercise, consider eating a 15-30gm carbohydrate snack, a half hour prior to exercising, if you are on insulin or other medications that lowers your blood sugar. If on insulin, general guideline for moderate intensity exercise is 15-30gm of carbohydrates every 30-60 minutes of exercise.
- For type 1 diabetes, if your pre-meal blood glucose level is greater than 14.0mmol/L and urine ketone levels is greater than 8mmol/L or blood ketone level greater than 3mmol/L, exercise should not be performed as it could cause a higher glucose level and more ketone production. Wait until your blood sugar is back in the normal range.
- If you use an insulin pump, see your healthcare team for more information on how to calculate your carbohydrate intake and to adjust the basal and bolus components of your medication.
- Carry a snack, glucose tablet or juice and identification
- Wear you 'Medic Alert' bracelet or necklace.
- Wear supportive and proper fitting footwear. Check your feet after exercising for any signs of cuts bruises or blisters and monitor the healing process.
- Keep well hydrated with water.
- Do not exercise on an empty stomach.
- Exercise with a buddy.

Stop exercising immediately if you:

- Have feelings of tightness or discomfort in the chest, jaw, arms, neck and back or are feeling dizzy, lightheaded, nauseated or sick.
- Sweating profusely.
- Have a severe headache.
- Have severe anxiety