Get Active

Chapter 2
Types of Exercise

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1. How to Prepare to Start an Exercise Program

Talk to your health care team

Before you start an exercise program, talk to your doctor or exercise team about how to make exercise both safe and effective for you. Recall, if any of the health issues on the list below applies to you, talk to your family doctor. You will need further testing before you can start your exercise program.

- I have pain or discomfort in my chest, neck, upper back, jaw or arms
- I am short of breath at rest or with mild exercise
- I feel dizzy or have fainted
- I am awake in the night feeling short of breath
- I feel short of breath when I lie down and sitting up helps
- My ankles are swollen
- My heart skips beats or races
- I have a heart problem
- I take medicine(s) for my heart
- I have a heart murmur
- I have pain in my lower leg(s) when I walk
- I feel tired or short of breath just doing normal things like taking out the garbage
- I want to do intense exercise. But, I get breathless when I do intense exercises such as jogging, weight training, hockey or soccer

2. Aerobic Exercise

What is aerobic exercise?

Aerobic Exercise is any type of prolonged activity that:

- Involves the large muscle groups
- Lasts for at least 10 minutes

Some examples of aerobic exercise include:

- Walking
- Jogging
- Cycling
- Swimming
- Rowing
- Using an elliptical machine

You can find information about where you can do your exercise in the Toolbox section of this guide.

What are the benefits of aerobic exercise?

Recall the many benefits of engaging in an exercise program (e.g., walking a prescribed amount of time at a specific intensity, 5 days per week):

- Lowers blood sugar. Sugar is used by your muscles when you exercise
- Improves your body's response to insulin (improves insulin sensitivity)
- Improves your fitness level
- Lowers blood pressure
- Lowers the effects of stress on your body
- Lowers cravings to smoke when you try to quit

- Improves HDL (good) cholesterol
- Improves muscle strength
- Lowers body fat
- Leads to stronger bones and better joint health
- Improves how you feel about yourself
- Raises your energy level
- Improves the quality of your life

What is my warm up and cool down?

You must warm up your body before exercise and cool down your body after. Warm-up means starting slowly. The purpose of your warm-up is to get your blood flowing to your muscles and prepare your body for exercise. Warm-up also allows your heart rate and blood pressure to rise slowly. This is important so that your exercise intensity feels more comfortable.

Match your warm-up to your exercise. If you are going to walk for exercise, your warm-up is walking. Take the first 5 to 10 minutes of your walk at a slow and casual pace. If you are cycling, your warm-up is cycling. Take the first 5 to 10 minutes of cycling at a slow pace.

It is also important to cool down. The cool-down is at the end of your exercise. Finish your exercise with 5 to 10 minutes of similar, slow activity. Your cool-down helps lower your heart rate and blood pressure to resting levels. The cool-down prevents you from feeling dizzy or light headed.

How often and how long do I exercise for?

The goal is to do aerobic exercise:

- 5 days a week. To get started, try to exercise 3 days a week. Slowly increase the number of days you exercise each week to 5 days a week.

It may take you 3 weeks to build up to this routine of exercising 5 days a week

- 30 to 60 minutes on each of the 5 days. Start with 10 to 30 minutes of exercise. You can break up this time with rest breaks or into 10 minute bouts of exercise throughout your day. Slowly increase the time you spend exercising to 30 to 60 minutes

Safety Alert!

Do **not** exercise more than 5 times per week. Exercising more increases your risk of:

- Muscle or joint injuries
- Feeling tired or unwell

Although exercise is central to good health, daily physical activity is too. Be active every day. Do lower-level activities (e.g., walks with your dog), sports (e.g., golfing using a cart) or find other ways of being active on the days you don't do 'prescribed exercise'. These types of activities are not types of 'prescribed exercise'. These activities also help manage your blood sugar and lead to a healthier life too. Talk to your exercise team if you are interested in playing sports that may be more vigorous than your 'prescribed exercise' program.

What intensity level do I exercise at?

Intensity level measures how hard you are working when you exercise. Measure your intensity level to ensure you exercise at the right level. There are 3 ways to measure your intensity level. The 3 measures are:

1. **Rating of Perceived Exertion (RPE):** The Borg Rating of Perceived Exertion (RPE) Scale is a tool to measure the intensity of your exercise. RPE is a scale from 6 to 20. You choose a number to describe the amount of effort, strain and/ or discomfort that is felt during exercise. A score of 6 is resting with no effort at all. A score of 20 is the most amount of effort you could imagine doing (maximal effort). Exercise at a RPE between 11 (fairly light effort, strain and/ or discomfort) to 14 (between somewhat hard and hard effort, strain and/ or discomfort) for moderate intensity exercise. Use this scale to help judge if you are overdoing your exercise. If you rated your RPE 15 (hard effort) or higher, then you should slow down your exercise.

   You can also use this scale to judge if you could exercise harder. If you rated your RPE at 10 or lower, try to walk a little faster.

   Below is a picture of the RPE scale from 11 to 14. For moderate intensity exercise, the goal is to exercise between 11 and 14. You can find a full RPE Scale from 6 to 20 in the Toolbox section of this guide.

11	Fairly light
12	
13	Somewhat hard
14	
15	Hard

2. **Talk Test:** The talk test is a tool to measure your effort level while you exercise. Do the Talk Test while you exercise. Talk with your exercise partner and pay attention to your breathing. For moderate intensity

exercise, your breathing rate increases but still allows you to speak without gasping for breaths between words. You should be able to talk comfortably but not sing.

3. **Heart Rate:** Your heart rate is another good measure to assess your intensity level. Measure your heart rate by feeling and counting your pulse. You could also use a heart rate monitor.

Facts about your pulse

Your pulse rate is the same as your heart rate

- Your pulse count should go up during exercise because your heart beats faster and harder
- Your pulse rate may not be the same as someone else's
- Some medicines can impact your heart rate

Taking your pulse

To feel your pulse, put 2 or 3 fingers on your skin at your wrist below the base of your thumb.

Or put 2 or 3 fingers on the side of your neck in the hallow area beside your Adam's apple. Be careful you do not press too hard; there is a risk you can get lightheaded.

Move your fingers until you feel your pulse. Use a timer (stop watch) and count the number of beats you feel for 10 seconds. For example at rest,

you may feel 12 beats in a 10 second count. 12 beats in 10 seconds is 72 beats per minute.

Ask your doctor or exercise team for the right heart rate for your exercise. To see how your body responds to exercise, measure your pulse rate before and immediately after exercise (before you cool down). Count the number of beats you feel in 10 seconds. It is important to count the number of beats you feel for 10 seconds as your heart rate drops quickly after exercise. For example, you may feel 20 beats in a 10 second count. 20 beats in 10 seconds is 120 beats per minute. Adjust your effort level to make sure you exercise with the right heart rate while keeping your RPE between 11 and 14.

How do I progress my aerobic exercise?

Over time, exercise starts to feel easier. Increase your exercise (time and intensity) to challenge yourself.

Step 1. Increase time first. Increase the amount of time you spend exercising by 5 to 10 minutes every 3 or 4 weeks. Work your way up to a total of 30 to 60 minutes each exercise session. You can break this time up with rest breaks or into 10 minute bouts of exercise throughout your day. When increasing the amount of time you spend exercising keep your exercise intensity the same.

Step 2. Then increase intensity. After 3 or 4 weeks of 30 to 60 minute exercise sessions, begin to increase your exercise intensity level. Remember to use the RPE scale, Talk Test and heart rate when you increase your exercise.

Safety Alert!

If you take insulin or a medicine from the Secretagogue class of medicines you are at risk for low blood sugar (hypoglycemia).

- You are more likely to experience a low blood sugar when first starting a new exercise program or when progressing your exercise program.
- Check your blood sugar before and after exercise.
- Always carry a fast-acting carbohydrate with you.

3. Resistance Training

What is resistance training?

Resistance training is a type of exercise that increases the strength and endurance of your muscles. Resistance training is done by lifting weights (also called dumbbells), using your body weight for resistance, or using exercise bands. There are many types of resistance training. Choose the type of resistance training you like the most. Below is a list of 3 types of resistance training. Talk to your exercise team about the type that works best for you.

1. Dumbbells or 'free weights'

Dumbbells are common pieces of resistance training equipment. Dumbbells are also called 'free weights'. They come in many different materials. Dumbbell materials include rubber, cast iron, and plastic. Dumbbells can come as a fixed weight in one solid piece. They can also come as adjustable weights, with a solid bar that you add weighted plates to.

2. Resistance Training Machines

Resistance training machines are large pieces of equipment. Resistance training machines are usually found in a gym. Training machines use a weight and pulley system to give you resistance. You can buy these machines for home use.

3. Exercise Bands

An exercise band

Exercise bands are large elastic bands used for resistance training. Exercise bands are a good choice if you don't have room for equipment. These bands are also portable, so they are good for travel. The colour of your exercise band tells you how much resistance it has.

It doesn't matter which type of equipment you use. Choose a weight or resistance that is comfortable and challenging. You can progress from there. There are 3 different resistance training programs you can try:

- Mini-Resistance Training Program (5 core exercises to get you started)
- Standard Resistance Training Program (10 exercises that will use the major muscle groups of the body from head to toe using a combination of your own body weight, dumbbells and exercise bands for resistance)
- Exercise Band Program (10 exercises that will use the major muscle groups of the body from head to toe using your own body weight and exercise bands for resistance)

Your exercise team will prescribe a program that is safe and effective for you.

What are the benefits of resistance training?

Resistance training and aerobic exercise are both part of your exercise program. Both types of exercise help you make the most gains in your fitness. As you get older, your muscles change and you lose almost one third of your muscle. This loss in muscle lowers your strength. But you can reduce how much muscle mass you lose with resistance training. Resistance training slows down your muscle loss. Resistance training also helps you manage your diabetes. Every time a muscle moves (such as during resistance training), it uses the sugar that is in your blood. The more muscle you have on your body, the more sugar you use from your blood. The value of resistance training is that it:

- Helps to manage your blood sugar
- Increases your muscle
- Increases your strength
- Lowers your body fat
- Helps to prolong independent living
- Makes everyday activities feel easier
- Helps make your bones stronger
- Helps make your joints stronger
- Improves your balance and reduces falls
- Improves your mood
- Improves your sleep
- Raises your self-confidence, self-image and quality of life

What do I need to know before starting resistance training?

Speak to your exercise team or doctor if you have any of the health problems

listed below. Your exercise team can make changes to your resistance training program to ensure you are safe.

- Untreated high blood pressure
- Abdominal or inguinal hernias that have not been repaired
- Glaucoma (eye problem) that is not treated
- Problems with your eyes because of diabetes, such as retinopathy
- Muscle or joint problems
- Difficulty getting up from the floor

How do I start resistance training?

To start resistance training, figure out the amount of weight for each exercise. Start with a weight (or colour of exercise band) that feels comfortable to do 10 repetitions.

How much weight should I lift?

To find out if you are using the correct weight or exercise band, answer these questions:

1) After doing the last repetition, do you feel that you can do 5 to 10 more repetitions?

   If you answer yes, the weight or exercise band is **too light or easy**

What is a repetition?

A repetition is one complete motion of an exercise

2) Are you struggling to do the last repetition?

   If you answer yes: the weight or exercise band is **too heavy or hard**

3) After the last repetition, do you feel as if you could do 2 to 3 more repetitions and no more?

   If you answer yes, this is a **good starting weight or exercise band to use**

Recall, keep your RPE between 11 (fairly light effort, strain and/ or discomfort) and 16 (a solid hard effort, strain and/ or discomfort).

Start with 1 set of 10 repetitions for each exercise. For example, perform the bicep curl 10 times. Start with 1 circuit of the exercise routine. For example, a circuit includes all the exercises in your program. Complete each exercise in the entire routine once before doing a second set.

How often and how intense is my resistance training?

Do resistance training 2 times per week. This is the lowest number of times needed for you to gain benefit. If you enjoy resistance training, you can do it every other day, which is 3 times per week. Leave at least one day of rest between each resistance training session. This allows your body time to rest and repair your muscles between each exercise session.

The intensity of resistance training differs for everyone. Below outlines the factors that impact the intensity of your resistance training program:

A. The amount of weight you lift or amount of resistance from an exercise band will change the intensity. The heavier the dumbbell (or more resistance from a band) the higher the intensity.

B. The number of times you perform an exercise will change the intensity. The number of times you perform an exercise is called **repetitions**. The more repetitions you do, the higher the intensity.

   – 1 bicep curl = 1 repetition

   – 2 bicep curls = 2 repetitions

   – 3 bicep curls = 3 repetitions

   Start with doing a bicep curl 10 times or 10 repetitions.

C. The number of times you repeat 10 repetitions changes the intensity. The number of times you repeat your repetitions is called a set. A set of repetitions is done with a break in between. The more sets you do, the higher the intensity.

   For example, do 2 sets of 10 bicep curls with a break in between.

What is a set?

A set is a group of repetitions done without stopping

Safety Tips for Resistance Training

Below are tips to ensure you are safe when you are doing resistance training. Safety tips are:

- Warm-up before resistance training and cool-down after resistance training. Try walking comfortably for 5 to 10 minutes as your warm-up and cool-down
- Do all exercises in the order prescribed
- Take at least a 30 to 60 second rest between exercises
- Use proper technique for each exercise. Technique is the way you do the exercises. Talk to your exercise team for help with your resistance training technique

- Do each exercise slowly and breathe normally. Do not hold your breath – this increases your blood pressure
- Lift the weight to a count of 2, lower the weight to a count of 3. This pace will ensure you are not rushing which can lead to injuries
- Keep your Rating of Perceived Exertion (RPE) between 11 (fairly light effort, strain and/ or discomfort) and 16 (a solid hard effort, strain and/ or discomfort). Keeping your RPE between 11 and 16 will ensure you are working at an intensity to get benefit without injuring yourself. You can find a full RPE Scale from 6 to 20 in the Toolbox section of this guide.

11	Fairly light
12	
13	Somewhat hard
14	
15	Hard
16	

- Stretch your muscles after you cool-down. Stretching may help improve your flexibility. You can find a copy of a set of stretches in the Toolbox section of this guide
- Take at least one rest day between resistance training sessions. Rest will prevent injuries and allow your muscles to recover before the next session

- Stop your exercise if you feel:
  - signs or symptoms of low blood sugar
  - chest discomfort
  - dizzy
  - short of breath
  - muscle or joint soreness

Safety Alert!

Stop and talk to doctor or exercise team if you have any symptoms such as pain or shortness of breath

- Track your progress on your exercise diary. Your exercise team will review your exercise diary and help you progress your resistance training program
- After your resistance training, your muscles may feel sore and stiff. This is normal. Muscle soreness happens because of very small tears that occur within your muscle. Muscle soreness happens when you first start resistance training, try a new exercise or increase the weight you lift. Soreness and stiffness happens many hours after you exercise and can last up to 4 days. Wait until all soreness and stiffness is gone before trying the exercises again. Giving your muscles time to heal will allow you to make the most gains in strength. Talk to your exercise team if you are sore and stiff for more than 4 days

How do I progress my resistance training?

Your body will adapt to each exercise over time. Progress your resistance training to ensure your body is still working hard enough to gain all the benefits of resistance training.

How do I progress my repetitions and weights (or resistance bands)

When you are ready, slowly increase the number of repetitions you do from 10 to 15

Once you can do 15 repetitions with ease:

- Increase the weight you lift by 2 to 5 pounds and drop your repetitions back down to 10

OR

- Change your exercise band for one that has more resistance and drop your repetitions back down to 10

Use the chart below to help you select the next correct weight or band colour

Tool to Help You Increase the Weight You Lift or Band You Use

When progressing your dumbbells, follow this order												
Lightest → Heaviest												
1 lb	2 lbs	3 lbs	5 lbs	8 lbs	10 lbs	12 lbs	15 lbs	20 lbs	25 lbs	30 lbs	35 lbs	40 lbs

When progressing your exercise bands, follow this order				
Lightest →				Heaviest
Yellow	Red	Green	Blue	Black

It is important to remember that:

- Not all exercises progress at the same rate
- Not all muscle groups will be ready to progress at the same time
- Not all muscles use the same weight

How do I progress my sets?

Once you can do 1 set for each exercise with ease, increase to 2 sets for each exercise. This can take 2 to 3 weeks. Do not do more than 2 sets.

Summary:

- Talk to your doctor or exercise team before you start your aerobic exercise or resistance training program
- Build up slowly to 30 to 60 minutes of aerobic exercise (walking, biking), 5 days per week. You can break up this time with rest breaks or into 10 minute bouts of exercise throughout your day
- Strengthen your muscles by doing resistance training 2 days per week
- Remember to do your Rating of Perceived Exertion (RPE), Talk Test and heart rate when you exercise
- Stop exercise if you experience any signs or symptoms of low blood sugar, chest pain, shortness of breath or dizziness