



**MOVING**

**THROUGH  
CANCER**

A GUIDE TO GETTING AND STAYING  
ACTIVE DURING CANCER TREATMENT

Exe*R*cise  
is Medicine®

MOVING  
THROUGH  
CANCER

Being physically active can be challenging after a cancer diagnosis. But research clearly shows that most people who are more active during cancer treatment have:



**FASTER  
RECOVERY  
FROM  
TREATMENT**

**LESS RISK  
OF CANCER  
RETURNING**  
(IN SOME CASES)

This booklet will explain the **why**, **what**, **how**, and **when** of physical activity during and after your cancer treatment.

# WHY BE ACTIVE DURING CANCER TREATMENT?

From the time of diagnosis, cancer can feel like something that happens **to** us. Being as active as possible during your treatment can help you take back some control over your life. And you'll feel better along the way.

What are the benefits of physical activity for people living with and beyond cancer?

If you are newly diagnosed, undergoing treatment, or have recently completed treatment, the benefits include:



## **Less cancer-related fatigue (tiredness).**

Exercise is the BEST available medicine for fatigue! If your energy levels are very low, simply start by spending less time sitting or lying down. Build in short periods of activity.



## **Improved bone health.**



## **Making everyday activities easier.**

Many cancer patients and survivors report feeling 10 years older after a year of cancer treatment. More physical activity can prevent these declines.



## **Improved mood.**

(for example, less anxiety and depression)



## **Better sleep.**



## **Better quality of life.**

*If you have breast cancer-related lymphedema (swelling) exercise will not make it worse.*

*These benefits are based on hundreds of carefully conducted scientific studies.*

## **WHAT ARE THE PHYSICAL ACTIVITY RECOMMENDATIONS FOR PEOPLE LIKE ME?**

The American College of Sports Medicine and 16 major medical associations from around the world came together in 2018 to review the science of exercise and cancer.

The primary messages of their recommendations are:

**SOME MOVEMENT IS BETTER THAN NONE.  
*MOVEMENT MATTERS!***



# GETTING STARTED

If you are not doing any activity at all, try starting with a 10-minute walk daily as a way of beginning your exercise journey. Or how about 5 minutes in the morning and 5 minutes in the afternoon? Add time until you are doing up to 30 minutes a day.

If walking isn't your thing, choose another activity you enjoy that increases your heart rate and makes you breathe harder. You could even begin with seated activities like marching, knee kicks and arm swimming. Daily activities around the home like laundry, gardening, and vacuuming can also help build up your health, especially if you're just getting started. Every active minute counts!

## Tips to help keep moving:



**Pick activities that you enjoy.**



**Try adding “physical activity snacks” throughout your day:** walk to the mailbox, walk the dog, do something in your garden/yard, dance in your kitchen, walk around while on the phone.



**Choose a time to be active each day.**  
This can help make it a habit.



**Keep track of physical activity in a diary.**

This can help you track your progress and keep you motivated.



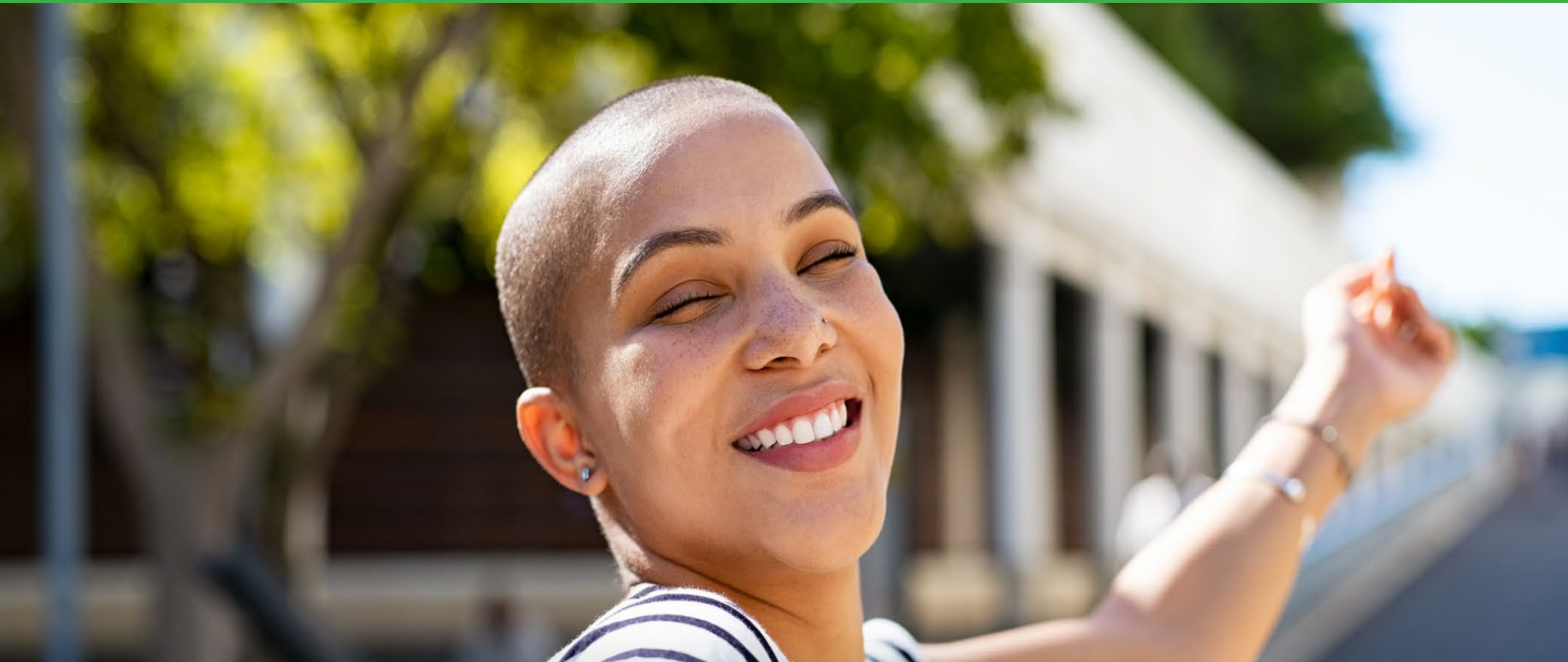
**Team up!**

Be active with a friend or family member.



If possible, consult with an exercise oncology professional or physical therapist if you have questions about exercise during and after your cancer treatment.

**For a screening survey and to find help in your area, scan this code:**



# TYPES OF EXERCISE

The types of activity found to be helpful before, during and after cancer treatment include **aerobic** and **muscle-strengthening** activity.



## AEROBIC ACTIVITY

Examples include walking, cycling, water exercise/ swimming, jogging and dancing. If an activity uses large muscles, raises your heart rate, and makes you breathe harder, it is aerobic. To help you work at the right level you can use the “talk but not sing” rule: If you can sing while doing your aerobic activity, try working a little harder. If you cannot talk while doing your aerobic activity, slow down a bit.



## MUSCLE STRENGTHENING

Involves lifting, pushing, or pulling something several times to challenge and train the muscles around your body. Some people call this strength training, weightlifting, weight training or resistance training. However you say it, these exercises are meant to strengthen the muscles and bones of your body.

- Muscle strengthening can be done using your body weight, cans or bottles from your kitchen cupboard, resistance bands or dumbbells. In a fitness facility you could also use machines, free weights or other strength equipment.
- To get the most benefit, the challenge needs to increase over time. For example, if you lift 3 pounds to do a shoulder exercise, after 2-4 sessions, increase to 4 or 5 pounds. Keep increasing the weight until you achieve the strength and ability you want or need. The goal is to gradually do more, while keeping control and stability during the exercise.

# WHAT MATTERS TO YOU? HOW CAN PHYSICAL ACTIVITY HELP?

## TO REDUCE SYMPTOMS DURING AND SOON AFTER ANY TYPE OF CANCER TREATMENT:



- Build up to 30 minutes, 3x per week of aerobic activity like walking, cycling, water exercise, dancing or jogging at a level that increases your breathing rate and heart rate. AND/OR
- Do exercises that use and strengthen the muscles of your whole body at least two days per week.

## TO IMPROVE ANXIETY:



- 3x weekly aerobic activity 30-60 minutes
- The combination of 3x weekly aerobic activity 30-60 minutes plus twice weekly muscle-strengthening (resistance) exercise 2 sets/8-15 reps

## TO IMPROVE HEALTH-RELATED QUALITY OF LIFE



- 3x weekly aerobic activity 30-60 minutes
- Muscle-strengthening (resistance) exercise 2x per week, 2 sets/8-15 reps
- The combination of these.

## TO IMPROVE CANCER RELATED FATIGUE:



- 3x weekly aerobic activity 30-60 minutes
- Muscle-strengthening (resistance) exercise 2x per week, 2 sets/8-15 reps
- The combination of these.

## TO IMPROVE PHYSICAL FUNCTION:



- 3x weekly aerobic activity 30-60 minutes
- Muscle-strengthening (resistance) exercise 2x per week, 2 sets/8-15 reps
- The combination of these.



# WHAT MATTERS TO YOU? HOW CAN PHYSICAL ACTIVITY HELP?

## TO IMPROVE SLEEP:



- 3 times weekly aerobic activity 30-60 minutes

## TO IMPROVE DEPRESSION:



- 3 times weekly aerobic activity 30-60 minutes
- The combination of 3x weekly aerobic activity 30-60 minutes plus twice weekly muscle-strengthening (resistance) exercise 2 sets/8-15 reps

## TO IMPROVE BONE HEALTH:



- Muscle-strengthening exercise 2x per week, 2 sets/8-15 reps

## AVOID INACTIVITY.

Rest when you need to but get back to moving as soon as you can.  
Even a little bit of activity helps. If you are in a wheelchair  
or bedridden, just do what you can.

# LIVING BEYOND CANCER TREATMENT

After you have finished treatment, you can work toward activity goals that may reduce the chance of cancer coming back. Many people who exercise after their cancer find that they are better able to return to their pre-cancer levels of energy, body weight, and emotional well-being.

To help your recovery after any type of cancer treatment:



150-300  
minutes per  
week

## AEROBIC ACTIVITY

like walking, cycling, water exercise/swimming, jogging or dancing that increases breathing rate and heart rate.

AND/OR



2x/week


## MUSCLE STRENGTHENING

exercises for the whole body




## THERE ARE MANY WAYS TO MEET THESE GUIDELINES.


*\*Every minute of activity counts. You don't need to do long sessions. For example, a walk for 10-15 minutes each day (or 5 minutes in the morning, 5 minutes at lunch and 5 minutes after dinner) adds up to 70-100 minutes a week. That's more than nothing and well worth doing!*



Helen rides her bike in the park on weekends for one hour and enjoys online dance exercise videos two days after work.




Maria walks each day for 20-25 minutes.



Malik attends a 60-minute ballroom dancing class once a week and goes to the gym on two other days.\*

Each time he does 15 minutes of cardio and lifts weights for 30 minutes.



Earl does a 60-minute water exercise class and walks 30 minutes 3x/week.

# FREQUENTLY ASKED QUESTIONS

## **What is the difference between “being active” or “physical activity” or “exercise”?**

To improve your symptoms during and after cancer treatment, it does not matter. Physical activity includes all types of movement and promotes overall health. The word ‘exercise’ is used to describe planned activities for the purpose of becoming more physically fit, so these activities might be of higher intensity. All three types of activity can help you feel better, sleep better, and move better, so don’t let the definitions slow you down. Just find ways to move that work for you.

## **How do I know if it is safe for me to exercise?**

This information will help you decide when to “go” or “not go” when it comes to exercise.

**If possible, talk with an exercise oncology professional or physical therapist if you have questions about exercise during and after your cancer treatment. [Click here](#) for a screening survey and to find help in your area.**

### *After surgery*

The time it takes to recover after surgery is different for everyone. Where in the body you have surgery will make a big difference. For example, it will usually take longer to recover from a chest or abdominal surgery than removal of a mole from your arm. During your recovery, it is important that you keep moving, mostly with walking. Muscle strengthening

exercises are not recommended until you get the “OK” from your doctors. This recommendation is in addition to any specific post-surgery exercises your care team has prescribed (such as shoulder mobility exercises after surgery for breast cancer).

### ***During chemotherapy targeted or systemic therapy (such as immune therapy, endocrine therapy, tyrosine kinase inhibitors) and/or radiation***

During systemic therapy and/or radiation you may not feel like exercising, but it will be particularly helpful if you move. You may feel your ability to exercise will be greater on some days than others. Listen to your body. But try to keep moving since exercise can reduce your symptoms. If you are feeling well enough to exercise, try to do so for at least 5-10 minutes and gradually increase the time. It might seem like a bad idea to move when you feel fatigue or other symptoms, but you will feel better if you move for a few minutes. On the chance that you do NOT feel better after 10 minutes, stop exercising and try again the next day. Both aerobic and muscle-strengthening exercises are helpful during chemotherapy and radiation treatments.

## **My feet are so numb from chemotherapy, is it even safe for me to walk or exercise?**

Symptoms like numbness or tingling in your feet are a common side effect from some types of chemotherapy. You may feel unsteady or off balance when you walk. Exercise and activity are still helpful and important, but there are some things to think about. First, wear a good quality shoe to provide stability as you walk and move. You may want to use

## FREQUENTLY ASKED QUESTIONS

a walker or walking poles until your balance gets better. You could also try a stationary bike or rower. Specific exercises can help you gain strength in your legs and improve your balance. This will help you gradually increase your overall exercise program.

### **My family is worried about me and thinks I shouldn't exercise.**

It is normal for your loved ones to worry about you and want to protect you from harm. You may want to show them that staying active after a cancer diagnosis is a very positive step to take. If possible, invite them to find out more from your cancer exercise instructor or even, if they can, join a session. Usually, being able to see that what you are doing is safe and helpful will set your family's minds at rest. Share this booklet to help them understand that being active actually helps you cope with the physical and emotional aspects of living with and beyond a cancer diagnosis.

### **I am worried about exercise being painful or dangerous.**

After a cancer diagnosis, and during and after cancer treatments, it's normal to want to avoid anything that may be painful or affect treatment outcomes. That said, vigorous exercise can sometimes cause muscle soreness or stiffness 1 or 2 days after a new challenging activity. Keep moving as much as you can – the soreness will go away in a few days. Gentle massage may help. Some people have trouble telling the difference between that discomfort and pain related to treatments. If you feel soreness only in the muscles used for exercise, it is probably related to your activity. Most research shows that staying active rarely causes injuries, particularly if you start slowly. Listen to your body and choose forms of exercise that will not worsen an injury or side effect. If you

are unsure which activities are best for you, ask someone in your care team. They can provide safe exercise suggestions that support your treatment.

### **I'm too tired to exercise.**

Surprisingly, being active during treatment can help you feel less tired! That's because physical activity helps your body in many ways, including improving your sleep, reducing your levels of stress, and increasing your strength. Exercise should not feel overwhelming. Start with the goal of simply moving more. Find a balance between rest and activity that feels good for you. An exercise professional with experience guiding people going through cancer treatment can help you find a routine to manage your specific needs.

### **My doctor hasn't recommended that I exercise.**

Just because your doctor did not recommend exercise does not mean they do not want you to be active. Often doctors are so focused on your questions about treatment that they run out of time to discuss physical activity. It is important that you and your doctor are on the same page regarding what is best for your health during treatment. Talk with your doctor about your interest in being active and find out if they have any concerns or recommendations based on your treatment plan. Share this booklet with them if they want to know more.

### **I don't know how to exercise.**

Exercise is planned activity for the purpose of becoming more physically fit. However, you could start by just being more active around your house, walking or gardening. The idea is to keep moving for longer periods of time. Then you might try a planned or structured type of exercise to build more stamina or improve muscle strength. Learn more below.

## FREQUENTLY ASKED QUESTIONS

### ***Start slowly and build up slowly.***

If you have been inactive and you tire or get out of breath easily, you might only be able to move (exercise) for a few minutes at a time before you need to slow down or take a break. Over time you will see that your endurance (the amount of time you can go without needing to slow down or rest) will increase. You'll be able to walk farther without getting winded or tired. It's important to pace yourself. Go at a comfortable speed that you can do while talking. If you push yourself too hard, exercise will be uncomfortable, your breathing will be difficult, and you may want to quit. So, be active at an effort that you can handle and maintain.

### ***Warm-up and cool-down are important before and after exercise.***

A warm-up and cool-down let your heart, lungs, and muscles ease into and out of exercise. You can also lower your risk of injury. Choose similar activities to your "main event" — just go easier.

**Warm-up:** Begin at a slow pace and gradually increase the speed and intensity.

Examples of warm-up for different types of aerobic activity:

- Brisk walking: Walk slowly and then increase the pace.
- Jogging or running: Walk briskly for a few minutes, then switch to a slow run.
- Bike ride: Pedal slowly or with light resistance, then gradually increase the pace.
- Water exercise or swimming: Move/swim slowly and then increase your speed with rest periods as needed

**Exercise:** After warm-up, do long, steady exercise. You might also try short bursts of harder effort. These challenging intervals should be followed by recovery (lower intensity exercise) or rest periods. When you catch your breath, go again.

**Cool-down:** Gradually slow down your pace for several minutes after exercise to let your heart rate and breathing recover. Then it can be a good time to stretch.

### **Is it ok for me to go swimming or do water exercises?**

Water exercise can be great for developing flexibility, stamina and muscle fitness. However, be sure your health care provider says it's OK to get into the water. If you're undergoing chemotherapy or radiation, chemicals in pools or hot tubs can irritate your skin. If you had surgery, your surgeon will check your wound for healing and tell you when water activities are safe. Once you're given the green light by your care team, exercise in warm water can make your body feel light, help your blood flow, and offer gentle ways of moving.

### **I don't know where to go to exercise.**

Exercise can be done in many places. You can exercise in a hotel room or your home if you use your body weight, resistance bands, free weights or have other exercise equipment. You can also simply walk out your front door, in a neighborhood park or around a city block. Most small towns and cities have exercise facilities or gyms. Gym facilities provide equipment for both aerobic and muscle-strengthening exercise. There are also online exercise programs — some are live, some are prerecorded. This is a link to [cancer exercise programs](#) that offer well-established programs in person, online or with apps that can be used on smartphones or iPads.

## FREQUENTLY ASKED QUESTIONS

### **What should I expect to feel when I exercise?**

When we do the type of exercise called “aerobic exercise” (examples are walking, jogging, cycling, or swimming), we feel an increased heart rate and faster and deeper breathing. We may feel warmer or sweat a little too. There should not be pain during aerobic exercise, but there may be muscle stiffness or soreness the following day which will gradually go away.

When we do muscle-strengthening exercise, we may feel muscle tension, like when lifting a heavy object. There should not be pain during muscle-strengthening exercise, but you may have muscle stiffness or soreness the following day or two. This will go away in a few days. Gentle massage may help.

### **I’ve tried exercise, even just walking, but it only made me feel worse.**

There are many different things that can affect how you feel during cancer treatments. Although exercise is good, when you exercise and how much you exercise should be tailored to you and to your treatment schedule. There are days when exercise may make you feel much worse. Usually these are the first few days right after chemotherapy. Going too long or too hard for your level of endurance might also make you feel worse. There are ways to add physical activity into your day so that it’s not overwhelming. One key is being consistent with even a small amount of physical activity each day. Over time, you can gradually increase your exercise program slowly and safely.

### **I’ve had back pain for years. I can’t exercise.**

Unfortunately, cancer isn’t the only thing that you are dealing with. Having other medical conditions can make it more challenging to find exercise and activity that will work for you. The good news is that exercise is safe and effective

for so many medical conditions, including back pain. Being inactive actually can make back pain worse. Most people with chronic back pain feel better and move better with a well-rounded exercise program. You may also want to ask a physical therapist or an exercise oncology professional for individualized guidance.

### **I’m busy. Isn’t that enough?**

It’s common to mistake being “busy” with being “active.” There is a short list of jobs that are considered “physically active,” including, gardeners, mail carriers, park rangers, construction workers or personal trainers. Unless you do very active work, you would benefit from increasing your activity level.

### **I have cancer in my bones. Is it safe for me to exercise?**

Exercise is still recommended if you have cancer in your bones. To be safe, get checked out by someone with special training in cancer and exercise before you start. For example, you could consult with an exercise professional or a physical therapist. See the following Online Resources section for help finding one of these professionals.

### **What about other health problems? Is it safe to exercise with chronic health conditions?**

Exercise is good for people with heart disease, mental health diagnoses, diabetes, obesity, kidney, liver and lung diseases. The benefits of being active go far beyond those specific to cancer. If you DON’T exercise regularly, those conditions can get even worse. Get help from an exercise oncology professional or physical therapist in putting together a program that works for you.

# ONLINE RESOURCES

Find a cancer and exercise program near you using the [Moving through Cancer program directory](#).

## You may want to start with online programs such as:

- [Download the Cancer Exercise App](#) from iTunes
- [The Oncology Nutrition and Exercise \(ONE\) group website](#), which includes a “workout of the week” option
- [2unstoppable](#)
- [Cancer Foundation for Life](#)
- [Maple Tree Cancer Alliance](#)
- [Dana Farber’s Zakim Center](#) opportunities include live online classes and YouTube videos.
- Macmillan’s Move More campaign:  
[Warm-up](#)                      [Cardio](#)  
[Strength & endurance](#)      [Cool-down](#)
- [Treolar Physical Therapy Workout to Conquer Cancer](#)





The recommendations in this booklet are consistent with published guidelines from many major medical organizations, including the American Society of Clinical Oncology, the National Comprehensive Cancer Network, and the American College of Sports Medicine, among others.



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