



# ***MOVING***

# **THROUGH CANCER**

A GUIDE TO GETTING AND STAYING  
ACTIVE DURING CANCER TREATMENT

Exe*R*cise  
is Medicine®

**MOVING**  
**THROUGH**  
**CANCER**



**AMERICAN COLLEGE  
of SPORTS MEDICINE®**  
LEADING THE WAY

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



**HAVE FEWER  
SIDE EFFECTS**



**FEEL BETTER  
FASTER AFTER  
TREATMENT**



**HAVE LESS  
CHANCE  
OF CANCER  
COMING BACK**

(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?

Cancer can feel like something that happens TO us. But you can take back some control over your life by being as active as possible during your treatment. And you will feel better along the way.

Whether you just learned that you have cancer, are getting treatment, or have finished your treatment, physical activity can make a difference.

## Why is physical activity good for people living with and beyond cancer?



### **Less fatigue (tiredness) from your cancer treatment**

If you feel very tired or low on energy, exercise is the BEST medicine! Start by spending less time sitting or lying down. Get up and move around for a few minutes several times a day.



### **Make everyday activities easier.**

Many cancer patients and survivors say they feel 10 years older after a year of cancer treatment. Physical activity can help stop you from going downhill.



### **Improved mood**

(for example, less worry and sadness)



### **Stronger bones**



### **Better sleep**

*\*If you have lymphedema (swelling) from breast cancer treatment, exercise will not make it worse.*

*These helpful effects are based on hundreds of well-done scientific studies.*

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

The American College of Sports Medicine and 16 important medical groups from around the world came together in 2018 to look at the science of exercise and cancer.

Their big message is:

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





# GETTING STARTED

If you are not doing any activity at all, try starting with a 10-minute walk each day. 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 doesn't sound good, pick another activity you enjoy that makes you breathe harder and your heart beat faster. You could even start while sitting in a chair. Move your arms and legs doing things like marching, knee kicks, and arm swimming.

Daily activities around your home such as gardening, sweeping floors or doing laundry are also good for your health, especially if you are getting started. Every active minute counts!

## Tips to help keep moving:



### Try adding “physical activity snacks” throughout your day:

- Walk to the mailbox.
- Walk the dog.
- Work in your garden or yard.
- Dance in your kitchen.
- Walk around while talking on your phone.
- Take the stairs, not the elevator.



### Pick activities that you enjoy.



### Choose a time to be active every day.

This helps make exercise part of your life.



### Team up!

Be active with a friend or family member.



### Write down your physical activity each day.

Track how you are doing to help you stick with it.



If possible, talk with a cancer exercise trainer or physical therapist if you have questions about exercise during and after your cancer treatment.

**To learn more and find help where you live, scan this code:**



# TYPES OF EXERCISE

Types of activity found to be helpful before, during and after cancer treatment are **aerobic** and **muscle-strengthening** activity.



## AEROBIC ACTIVITY

If an activity uses large muscles, makes you breathe harder and your heart beat faster, it is aerobic. Walking, riding a bicycle, water exercise, swimming, jogging, and dancing are examples of aerobic activity.

To help you work at the right level 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

is lifting, pushing, or pulling something several times to make your muscles work harder than usual. Some people call this strength training, weightlifting, weight training or resistance training. However you say it, these exercises help your muscles and bones get stronger.

- Muscle strengthening can be done using your body weight, cans or bottles from your kitchen, dumbbells or resistance bands. In a gym you could also use machines, free weights or other strength equipment.
- To get the most out of strength training, push yourself harder over time. For example, if you lift 3 pounds to do a shoulder exercise, after 2-4 workouts, try lifting 4 or 5 pounds. Gradually do more until you get the strength you want or need.

## Good to Know for Muscle Strengthening:

- Reps (repetitions) means how many times you do a movement. For example, you may lift a weight 8 to 10 times (8-10 reps) or until your muscles are tired.
- Sets means how many times you repeat an exercise. For example, you may lift a weight 8 to 10 times, rest for 30 seconds, and then do it again (2 sets).



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

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



- ☐ Aerobic activity like walking, riding a bicycle, water exercise, dancing or jogging at a level that makes you breathe harder and your heart beat faster. Build up to 30 minutes, 3 days a week. AND/OR
- ☐ Do exercises that use and strengthen the muscles of your whole body at least 2 days a week.

## TO HAVE LESS CANCER-RELATED FATIGUE OR TIREDNESS



- ☐ Aerobic activity for 30-60 minutes, 3 days a week
- ☐ Muscle-strengthening exercises 2 days a week, 2 sets of 8-15 reps
- ☐ Both of these

## TO BE ABLE TO DO MORE WITH YOUR BODY (PHYSICAL FUNCTION)



- ☐ Aerobic activity for 30-60 minutes, 3 days a week
- ☐ Muscle-strengthening exercises 2 days a week, 2 sets of 8-15 reps
- ☐ Both of these

## TO GET BETTER SLEEP



- ☐ Aerobic activity for 30-60 minutes, 3 days a week

## TO IMPROVE WELL-BEING (YOUR LIFE FEELS BETTER)



- ☐ Aerobic activity for 30-60 minutes, 3 days a week
- ☐ Muscle-strengthening exercises 2 days a week, 2 sets of 8-15 reps
- ☐ Both of these



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

## TO HAVE LESS ANXIETY (WORRY)



- ☐ Aerobic activity for 30-60 minutes, 3 days a week
- ☐ The combination of aerobic activity for 30-60 minutes, 3 days a week **plus** muscle-strengthening exercises 2 days a week, 2 sets of 8-15 reps

## TO HAVE LESS DEPRESSION (DEEP SADNESS)



- ☐ Aerobic activity for 30-60 minutes, 3 days a week
- ☐ The combination of aerobic activity for 30-60 minutes, 3 days a week **plus** muscle-strengthening exercises 2 days a week, 2 sets of 8-15 reps

## TO MAKE YOUR BONES STRONGER



- ☐ Muscle-strengthening exercises 2 days a week, 2 sets of 8-15 reps

**DO *NOT* SIT OR LIE DOWN ALL DAY.**

Rest when you need to but start moving as soon as you can. Even a little bit of activity helps. If you are in a wheelchair or must stay in bed, just do what you can.

# LIVING BEYOND CANCER TREATMENT

You are done with treatment. Now physical activity may help lower your chance of the cancer coming back. Being more active or exercising after cancer can also help you have more energy, be at a healthy body weight and just feel better.

**To help you get better after any type of cancer treatment:**



150-300  
minutes a  
week:

## AEROBIC ACTIVITY

like walking, riding a bicycle, water exercise or swimming, jogging or dancing at a level that makes your heart beat faster

AND/OR



2 days  
a week:

## MUSCLE STRENGTHENING

exercises for the whole body






## THERE ARE MANY WAYS TO MEET THESE GUIDELINES.

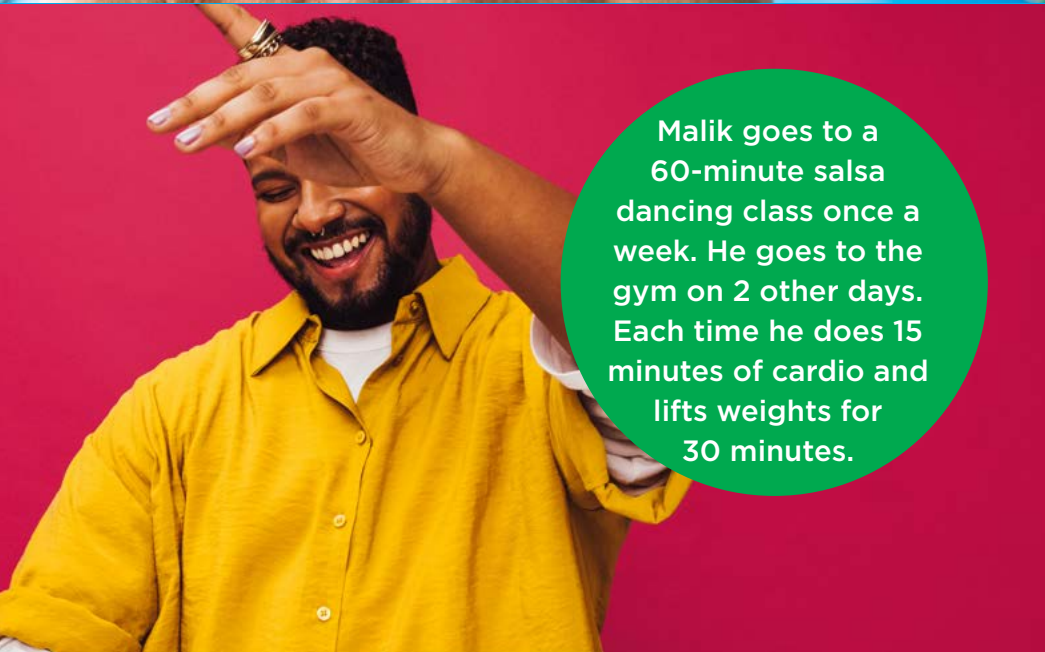
*Every minute of activity counts. You don't need to go for a long time. For example, walk for 10 to 15 minutes each day (or 5 minutes in the morning, 5 minutes at lunch and 5 minutes after dinner). That adds up to 70 to 100 minutes a week and is well worth doing!*



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

A photograph of a woman with grey hair and glasses, wearing a pink helmet. She is holding a black phone to her ear with her right hand. The background is a solid pink color.

Helen rides her bike in the park on weekends for 1 hour and enjoys online dance exercise videos 2 days after work.



Malik goes to a 60-minute salsa dancing class once a week. He goes to the gym on 2 other days. Each time he does 15 minutes of cardio and lifts weights for 30 minutes.



Maria walks each day for 20 to 25 minutes.



# PHYSICAL ACTIVITY AND CANCER: QUESTIONS AND ANSWERS

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

To feel better during and after your cancer treatment, it does not matter. Physical activity includes all kinds of movement and gives you better health. The word ‘exercise’ means planned activities to improve your fitness, so those can be more challenging. All three types of activity will help you feel better, sleep better, and move better. 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 if it is safe for you to exercise at this time.

If you can, talk with a cancer exercise trainer or physical therapist. They can answer your questions about exercise during and after cancer treatment. To learn more and find help where you live, [go here](#).

## ***After surgery***

Some people take longer to recover from an operation, while others get better quicker. What kind of surgery you had makes a big difference. For example, it will usually take longer to get better from chest or stomach surgery than taking a mole off your skin. While you heal, it is important to keep moving, mostly with walking. Don’t do muscle strengthening exercises until you get the OK from your doctor. But do the after-surgery exercises that your doctor or their team has given you (such as shoulder exercises after breast cancer surgery).

## ***During treatment***

Cancer treatment can include many types of medicine (like chemotherapy) or radiation (energy rays to kill the cancer). Ask your doctor for more information about what treatments you are getting.

While taking cancer medicine or radiation you may not feel like exercising. But it will be really helpful if you move. It may be easier to be active on some days but harder on other days. Listen to your body. If you feel well enough to exercise, try going for at least 5-10 minutes. Add a few more minutes every few days.

Both aerobic activity and muscle-strengthening exercises are helpful while taking cancer medicine and during radiation treatments.

It might seem like a bad idea to be active when you feel tired or have other symptoms. But you will feel better if you move your body for a few minutes. If you do NOT feel better after 10 minutes, stop exercising and try again the next day.

## ***I’m busy. Isn’t that enough?***

It’s common to confuse being “busy” with being “active.” There are few jobs that are truly “physically active,” such as gardeners, mail carriers, park rangers, construction workers or house cleaners. Unless you do very active work, more physical activity will be good for you.

## QUESTIONS AND ANSWERS

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

Numbness or tingling in your feet are common side effects from some types of cancer medicine (chemotherapy). You may feel unsteady or off balance when you walk. Physical activity is still helpful and important, but here are some things to think about.

- Wear good shoes to help you stay steady.
- You might use a walker or walking poles until your balance gets better. You could also try a stationary bike or rower.
- Ask about exercises for your legs to help you get better strength and balance. This will help you get back to the activities you enjoy.

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

It is normal for your family and friends to worry about you and want to keep you from getting hurt. You may want to show them that physical activity is a very good thing for people with cancer. If you can, get your cancer exercise trainer to answer your family's questions. Maybe a loved one could come with you to an exercise session. They will feel better when they see that you are safe. Share this booklet with your family. You can help them understand that being active actually helps you deal with your feelings and strengthen your body during and after treatment.

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

Of course, you don't want to do anything that may be painful or could affect your cancer treatment. Start slowly so you don't hurt yourself. Hard exercise can sometimes make your muscles sore or stiff for 1 or 2 days. Keep moving as much as you can – the soreness will go away. Gentle massage may help. Some people have trouble telling the difference between muscle soreness and pain that comes from cancer treatments. If you feel soreness *only* in the muscles used for exercise, it is probably from that activity. Listen to your body and choose activities that will not make things worse. If you are not sure what is best for you, ask your doctor or someone on their team.

### **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 better sleep, less stress, and more strength. You should not feel that exercise is more than you can handle. Start with a simple goal of *moving more*. Find a balance between rest and activity that feels good for you. A cancer exercise trainer can help you figure this out.

### **My doctor hasn't said that I should exercise.**

Doctors are usually so focused on medical treatment for your cancer that they run out of time to talk about physical activity. That does not mean they don't want you to be active. Talk with your doctor about physical activity or exercise. Find out if they have any concerns or advice. Share this booklet with them if they want to know more.

## QUESTIONS AND ANSWERS

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

Exercise is planned activity to help you become 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 type of exercise to get stronger. Now let's learn more about exercise:

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

If you get tired or out of breath easily, you might only be able to exercise for a few minutes before you have to slow down or take a break. Over time you'll be able to walk farther or go longer without getting out of breath or tired. Go at a comfortable speed that you can do while talking. If you push yourself too hard, you'll have trouble breathing and you may want to quit. So, be active at an effort level that you can handle.

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

A warm-up and cool-down help your heart, lungs, and muscles ease into and out of exercise. Start and end exercise at a slower pace. You will also be less likely to hurt yourself.

**Warm-up:** Start slowly and gradually go a little harder and faster.

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

- Brisk walking: Walk slowly at first. Then gradually speed up.
- Jogging or running: Walk fast for a few minutes, then switch to a slow run.
- Bike ride: Pedal slowly or with light force, then gradually pedal faster or harder.
- Water exercise or swimming: Move or swim slowly at first. Then go a little faster and add rest breaks if you need them.

**Exercise:** After warm-up, exercise for several minutes. If you are just starting out, try going for 10 minutes. Over time, build up to 20 or 30 minutes.

**Cool-down:** Gradually slow down your pace for at least 5 minutes to let your heart rate and breathing go down. 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 building up your flexibility, stamina, and muscle fitness. However, be sure your doctor says it's OK to go into the water. If you're getting chemotherapy (cancer medicine) or radiation (energy rays to kill the cancer), chemicals in pools or hot tubs can irritate your skin. If you had surgery, your doctor will check your stitches for healing and tell you when water activities are safe. Once you learn that it's OK, 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 your home or a hotel room using your body weight, resistance bands, free weights or other exercise equipment. You can also simply step out your front door and walk around the block or go to a neighborhood park. Most towns and cities have gyms or fitness clubs. Gyms have equipment for both aerobic and muscle-strengthening exercise. There are also online exercise programs. Here is a link to cancer exercise programs that offer programs in person, online or with smartphone apps: [www.exercisemedicine.org/movingthroughcancer](http://www.exercisemedicine.org/movingthroughcancer).



## QUESTIONS AND ANSWERS

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

When we do aerobic exercise (such as walking, jogging, cycling, or swimming), we breathe deeper and our heart beats faster. We may feel warmer or sweat a little too. There should not be pain during aerobic exercise, but you may feel some muscle stiffness or soreness the next day. This will go away in a few days. The good news is that exercise can start to get easier after you do it for a several weeks, especially after your treatment is done.

When we do muscle-strengthening exercises, we feel our muscles working like when we lift something heavy. But there should not be pain. After a hard workout, you may have muscle stiffness or soreness for a couple days. This will go away. Gentle massage may help.

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

Many different things can affect how you feel during cancer treatments. Exercise is good, but you may have to change *when* you exercise and *how much* you exercise based on your treatment. There are days when exercise may make you feel much worse, such as the first few days after chemotherapy (cancer medicine). Going too long or too hard for your level of fitness might also make you feel worse. Try adding short bits of physical activity throughout your day. This might work better. Over time, you will be able to slowly and safely do more.

### **Is it safe to exercise with other health problems?**

Exercise is good for people with heart disease, mental health problems, diabetes, obesity, kidney, liver and lung diseases and many other medical conditions. If you DON'T exercise regularly, those health problems can get even worse. Talk with a cancer exercise trainer or physical therapist. They can help you put together a program that works for you.

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

If you have other health problems, it can be tougher to find the right physical activity for you. The good news is that exercise is safe and good for many medical conditions, including back pain. Sitting too much can actually make back pain worse. If you have had back pain for a long time, you will feel better and move better with a well-rounded exercise program. A physical therapist or exercise cancer trainer can help.

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

Exercise is still good if you have cancer in your bones. To be safe, talk with someone who has special training in bone cancer and exercise before you start. For example, talk with a physical therapist or a cancer exercise trainer. See the Online Resources section for help finding one of these experts.

# 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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