Aerobic Exercise Program During and After Cancer Treatment

Exercise is safe for most people during cancer treatments, however, it is important to check with your provider before starting an exercise program, as there may be some days during your treatments when you shouldn’t exercise.

Why should I exercise?

Exercise is an important part of cancer care during and after treatment. It has many benefits and should be a part of your treatment plan no matter your type or stage of cancer.

Exercise During Treatment

Exercise can help with many things during cancer treatment such as:

- Poor sleep.
- Low energy (fatigue).
- Nausea or feeling sick to your stomach.
- Feeling nervous or sad.
- Weakness.

Exercise After Treatment Has Ended

Exercise is important for your recovery and health. Exercise after treatment has ended can help you to:

- Feel stronger.
- Have more energy.
- Be able to do more without feeling winded.
- Build a stronger heart.
- Concentrate or feel less 'foggy'.
- Sleep better.
- Feel happier.
- Manage your weight.
- Improve your strength.
- Improve quality of life.

For people with breast, endometrial or colon cancer, exercise may help prevent your cancer from coming back.

What Kind of Exercise Should I Do?

There are two kinds of exercise: aerobic exercises and strengthening exercises.

Aerobic exercise has many benefits including: improving your heart function, reducing your risk for heart disease and stroke, increases energy, reduces feelings of anxiety or depression, and can help with sleep. Aerobic exercise involves any activity that raises your heart rate over a sustained period of time.

Types of aerobic exercise are:

- Walking.
• Biking.
• Gardening.
• Jogging.
• Dancing.
• Jumping rope.
• Swimming.

Strengthening exercises help you feel stronger by building muscle and help to keep your bones strong.

Types of strengthening exercises are:

• Lifting weights.
• Doing leg lunges.
• Sit-ups.
• Pilates.
• T’ai Chi.
• Some types of yoga.

It is good to do both aerobic and strength exercises. You should start with aerobic exercises and slowly add in strength exercises.

See this article for pictures of strengthening exercises.

**Aerobic Exercise Components**

**Warm-Up**

This is an important part of any exercise program. It is even more important if you are not used to exercising, if you have heart problems, or if you are older than 55. Warm up exercises help your body get ready by slowly increasing your heart rate, your body temperature, and warming your muscles to prevent injury.

Examples of a warm-up:

• Walk slowly for 5-10 minutes at an easy pace. On a scale of 0-10, an easy pace is about 1-2.
• Bike slowly for 5-10 minutes at an easy pace.

**Aerobic Exercise – Training Zone**

Intensity is one of the most important factors in exercise. In order to gain the benefits of exercise, you have to ”overload” or push your body. It’s important to do this slowly to prevent injury. There are a number of ways to know if you are working hard enough to gain benefits including the Borg-RPE scale, heart rate response, or the talk test.

**Borg Scale of Perceived Exertion**

The chart linked below is called a Borg Scale. Look at the scale and ask yourself how hard you are working during your exercise. This includes how hard you are breathing, how “hard” you feel your heart is pumping, and how hard your muscles are working.

If you haven’t been exercising, aim to work at a rating of 9-11 “Very Light to Light work.” Once you are able to walk for 20-30 minutes at this level, then gradually increase your intensity to 11-13. You can do this by walking or biking faster, including small hills in your walk, or swinging your arms during walking.

**Borg-RPE-Scale® [PDF] (CDC)**

**Heart Rate**

• Monitoring your heart rate is another way to determine intensity.
• By using heart rate, you will make an exercise program that is made just for you.
1. Subtract your age from 220. This is your maximum heart rate.
   - For example, if you are 60 years old, your maximum heart rate would be \((220-60) = 160\).

2. After sitting for a few minutes take your heart rate.
   - Put your pointer finger and middle finger at the top of your thumb.
   - Slide these two fingers down your thumb until you get to your wrist.
   - Count how many beats you feel under your fingers for 60 seconds or 1 minute. This is your resting heart rate. Most people will have a resting heart rate between 60 and 100.
   - Now you will figure out a heart rate range where you will break a sweat during exercise.

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\text{(HR max – HR rest) x .5 + HR rest = low end of training zone}
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\[
\text{(HR max – HR rest) x .65 + HR rest = high end of training zone}
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For example, I am a 60-year-old woman who has finished treatment for colon cancer. I talked to my provider about exercise and she says that I can and should start a program.

My maximum heart rate is: \(220-60 = 160\).

I count 78 beats at my wrist in 1 minute. This is my resting heart rate.

My training zone is:

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\text{(160-78) x .5 + 78 = 119}
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\text{(160-78) x .65 + 78 = 131}
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After my 5-minute warm-up, I will walk faster. When I walk faster, I will take my heart rate. My goal is to have my heart rate between 119 beats/minute and 131 beats/minute. If my heart rate is between these numbers, I am walking at the right speed to get the most out of my exercise program.

If my heart rate is less than 119 beats/minute when walking, I should **Walk Faster**.

If my heart rate is more than 131 beats/minute when walking, I should **Walk Slower**.

If you are just beginning an exercise program or have a lot of side effects from cancer treatment, start at a lower intensity (30-40%).

You should not use this heart rate equation if you take Beta-Blockers. These medications are commonly used for people with heart conditions such as a heart attack, heart failure, or a-fib. Instead, use the Borg Scale or the Talk Test.

**Talk Test**

Another easy way to determine if you are working hard enough is the talk test. When you are walking you should feel a little breathless and you may sweat. You should aim for a speed or pace that allows you to talk, but not sing. If you are able to sing, then your intensity is too low, and you should quicken your pace.

**Cool Down**

At the end of your exercise, you need to cool down your heart, body temperature, and muscles. You should walk slowly for 5 minutes before stopping. If you have a heart condition, your provider may ask you to cool down for more than 5 minutes.
How many days each week should I exercise?

During treatment, you should try do some activity most, if not all days of the week. You might start at 3-5 minutes in the “training zone,” adding in 1-5 minutes per week so that eventually you are walking for 20-30 minutes at one time. For some, this may be too aggressive, so think about getting 20-30 minutes of walking done each day by breaking it up into smaller pieces. For example, walk 5 minutes, rest 5 minutes, and repeat. If you have not exercised before, or you are having a lot of side-effects from treatment, you should start more slowly or consider seeking out the expertise of an oncology exercise specialist.

Are there different exercise recommendations depending on what symptoms I have?

Yes! There are some symptoms associated with cancer that benefit from a certain dose or amount of exercise. See the recommendations below from the American College of Sports Medicine Guidelines called “ExeRcise is Medicine.”

Cancer-related fatigue

This is a “distressing, persistent, subjective sense of physical, emotional, and/or cognitive tiredness or exhaustion related to cancer or cancer treatment that is not proportional to recent activity and interferes with usual functioning.”

To combat fatigue during and after cancer treatments, the recommendation for aerobic exercise is:

- Aerobic exercise 3 times per week.
- 30 minutes each session.
- Moderate intensity.

*There is also a recommendation for strength training. Refer to our article on Strengthening During and After Cancer.

Health-Related Quality of Life

To improve quality of life during and after cancer treatments, the recommendation for aerobic exercise is:

- Aerobic exercise 2-3 times per week.
- 30-60 minutes.
- Moderate to vigorous intensity.

*There is also a recommendation for strength training. Refer to our article on Strengthening During and After Cancer.

Physical Function, Anxiety, or Depression

Similar exercise prescriptions are recommended to improve your ability to function (walk, shower and do daily activities) or to improve feelings of anxiety or depression. To improve these symptoms during or after cancer treatments it is recommended to:

- Perform aerobic exercise 3 times per week
- 30-60 minutes per session
- Moderate to vigorous activity

*There is also a recommendation for strength training. Refer to our article on Strengthening During and After Cancer.

Chemotherapy and Exercise - Important Considerations

If you have gotten chemotherapy to treat your cancer, you should talk to your provider about exercise. Each type of
Chemotherapy is different in how it affects your body. Some days, your provider might ask you not to exercise because of low blood counts or fever. Or, they may ask you to stay active, but reduce the intensity that you are exercising.

Some side-effects of chemotherapy that may affect your ability to exercise are:

**Anemia**
- If you have anemia, you may feel tired or short of breath.
- Many people can keep moving and avoid inactivity by walking more slowly or for shorter amounts of time.

**Low platelet counts (Thrombocytopenia)**
- Platelets help to stop bleeding.
- You may bruise or bleed easily if your platelets are low.
- If you have any problems with balance, feel unsteady, or have feelings of dizziness, you should not exercise with low platelet counts.
- Please talk to your provider about activity suggestions when your platelets are low.

**Tingling in your hands or feet (Peripheral neuropathy)**
- Some types of chemotherapy can cause tingling in your hands and feet.
- Tingling may affect your balance.
- Talk to your provider about exercise with peripheral neuropathy.
- Find a physical therapist who understands chemotherapy and peripheral neuropathy. They may be able to help with the tingling feeling as well as improve your balance.

**Food and Weight Loss**
- If you have lost weight during treatment, you have also lost muscle.
- Exercise can help you get stronger.
- Talk to a dietitian about what foods you should eat to help you have enough energy to exercise and to help regain any muscle you lost.

**Radiation Therapy and Exercise**
Radiation therapy is a common treatment for cancer. Most people who have radiation feel tired. Exercise can help you deal with feeling tired and give you more energy.

OncoLink has a large section on cancer-related fatigue, with helpful tips and information.

Radiation and the sun. You are more likely to get a sunburn during and after radiation therapy. Talk to your provider about skin protection. You may want to exercise in the morning or in the early evening so that you are less likely to get a sunburn.

If you got whole body radiation therapy, you should be careful about exercising in hot weather. Your body may have trouble getting rid of the heat you make during exercise, which can be dangerous. Dress in light clothes and exercise in the morning or early evening. Talk to your provider about when and how you should exercise.

**Your Bones and Cancer**
Some cancers affect the bones in the body, making them weak. Other times, the treatment you get for cancer can cause bones to be weak. Exercise, if done right, can help to strengthen your bones.

Cancers that MAY affect your bones are:
- Multiple myeloma.
- Lung cancer.
- Sarcoma.
- Breast Cancer.
Prostate Cancer.
Testicular Cancer.

It is important that you talk to your provider about the health of your bones.

Your provider may tell you it is safe to exercise.

Your provider may ask you to stop exercising until after treatment has ended.

Your provider may tell you not to use heavy weights for strengthening if you have cancer in your bone and you are at a higher risk for fracture.

See this section on OncoLink for recommendations for strengthening or resistance training. (Include link)

Safety with Exercise - Important

- Talk to your provider BEFORE starting an exercise program.
- You should not exercise if you:
  - Have pain or discomfort anywhere above your waist while exercising (chest pain, left arm pain, jaw pain, neck pain or nausea).
  - Dizziness.
  - Fall.
  - Feel unsteady.
  - Bruise a lot.
  - Have a fever.
  - Have pain with walking.
  - Have pain with sneezing, coughing or laughing.
  - Have numbness or tingling.
  - Have diarrhea.
  - Have constipation.
  - Urinate or pee a lot.
  - Urinate or pee less than usual.
  - Have swelling.

Quick Tips for Exercise

- Talk to your provider about an exercise program.
- Do something that you find is fun and makes you happy.
- Find a partner.
- Talk to someone who has had cancer.
- Listen to music while you exercise.
- Do different types of exercise to train different parts of your body and to avoid boredom.
- Seek out an exercise specialist who knows about cancer.
- Set goals that you can reach.
- Be kind to yourself.

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