

Physical Activity for the Person with Cancer and Diabetes

Physical activity includes anything that gets you moving, such as walking, dancing or working in the yard. You can receive the benefits of physical activity without going to a gym, playing sports or using fancy equipment. When you are physically fit, you have the strength, flexibility and endurance needed for your daily activities. You will control your weight, lower your blood sugar level and feel better about yourself.

It is important for everyone to be physically fit. Because you have cancer and diabetes, it is especially important that you control your weight. Recent data have shown that cancer patients who are physically active have less fatigue, enjoy an increased feeling of well being and may have improved treatment outcomes compared to inactive individuals.

Advantages of Physical Activity

- Decreases effects of stress, anxiety and fatigue
- Helps lower cholesterol
- Improves heart and lung health, and reduces risk of heart attack
- Helps maintain normal bowel function
- Helps shed extra pounds and keeps them off
- Helps you look and feel better

Before starting an exercise program it is important to receive a detailed medical evaluation because certain medical conditions might become worse as a result of increased physical activity. Your doctor will review your medical history and give you tests to check the condition of your heart, blood vessels, kidneys, eyes and nervous system.

After obtaining a complete medical check-up, talk to your health care provider about what kinds of activities are right for you. This is especially important if you:

- Are over 35
- Have had diabetes for more than 10 years
- Have had any complications from diabetes
- Have heart disease or are at high risk for it
- Have diabetes eye disease (retinopathy)
- Have not exercised in a long time
- Have been diagnosed with any blockage of blood vessels (peripheral vascular disease)
- Have erectile dysfunction (not being able to have or maintain an erection)

Types of Physical Activity

Most doctors recommend aerobic exercise, which makes you breathe more deeply and makes your heart work harder. Choose the activities that you will enjoy the most, like walking, jogging, bicycling, or aerobic dancing. If you have foot problems, try activities that are less stressful on your feet, like swimming or rowing.

You can do other activities that you may not think of as "exercise." Try these suggestions to increase your physical activity level:

- Plan active weekends.
- Skip the elevator and take the stairs.
- Park at the far end of the parking lot and walk to the office or store.
- Walk a few blocks before getting on your bus, and get off a few blocks before your stop.
- Take a break from your desk to stretch and go for walk.
- Before lunch, go for a brisk 10-minute walk.
- Get outdoors – rake your leaves, wash your car, push a lawn mower.

Physical Activity and Low Blood Sugar

Exercise makes insulin more effective and may lower your blood sugar. This is a great benefit, but it means that you must watch for the symptoms of low blood sugar while you exercise:

• Blurred vision	• Hunger
• Dizziness	• Irritability
• Excessive sweating	• Rapid heart rate
• Headache	• Trembling
• Sleepiness	• Difficulty concentrating

You should be prepared for these symptoms by keeping at least 15 grams of carbohydrates with you for quick relief of low blood sugar. In fact, it's a good idea to have more than 15 grams handy in case you need more. Some carbohydrate options include:

- Glucose tablets
- Snacks such as four ounces of juice, one small box of raisins, or four ounces of regular soda (not diet)

What types of foods contain 15 grams of carbohydrates?

- ½ cup regular carbonated soda
- ½ cup fruit juice (orange or apple juice)
- 4 teaspoons sugar

- 1 tablespoon honey
- 2 tablespoons raisins
- 8 Lifesavers[®] candies or 10 jelly beans
- Four glucose tablets (of 4 grams each)



Be careful if you are beginning an exercise routine, as your blood sugar may drop several hours after you exercise.

Physical Activity and High Blood Sugar

If your blood sugar is too high, physical activity may cause it to raise higher. Avoid physical activity if your blood sugar is higher than 300. Check with your health care provider for the blood sugar levels that are right for your exercise program.

Test Before and After

If you are just beginning an exercise program, it is important to test your blood sugar before and after physical activity. Record the results and review them with your health care provider diabetes educator to see how your body is responding to different types of physical activity. Your healthcare professional will help you adjust your medication should your blood sugar drop below your **lower limit of the target range, most often around 70 mg/dl.**

Note that children with Type 1 diabetes are prone to have more variable blood sugar levels than adults. It's important to monitor the child's blood sugar and balance their insulin with their level of active play and exercise.

A chart for your blood sugar records might look like this:

Your Blood Sugar Record

Date	Activity	Blood Sugar Before Activity	Blood Sugar After Activity

Timing Your Physical Activity

If you are physically active for more than 30 minutes, your blood sugar will drop more than if you are active for a shorter time doing a slower activity. Your blood sugar may continue to drop for several hours after your workout. For example, if you are on insulin, evening exercise may result in low blood sugar while you sleep. You may need to eat a carbohydrate snack before going to sleep to prevent a low blood sugar while you sleep.

Keep in mind carbohydrate snacks at bedtime may not be all that effective in preventing low blood sugars. You may have to check your blood sugar between 2:00 a.m. and 3:00 a.m. when starting a new exercise routine. Physical activity in the morning will make your blood sugar drop

less than an afternoon or evening workout.

Low blood sugar can be prevented by anticipating it. For example, you could reduce the dose of insulin which is likely to work at the time you exercise. Alternatively, you make keep extra snacks with you for unplanned physical activity.

The best time to exercise may be 1-1 ½ hours after a meal. You do not want to exercise at the time that your medication is at its peak.

Tips for Success

- Schedule physical activity on your calendar to reserve time for this important activity.
- Find an exercise partner to help you stay with your program and to keep you company.
- Warm up and cool down at a low intensity for five minutes. Remember to stretch before warm up and after cool down.
- If you have not been exercising, start with five to ten minutes of activity and then add more time or exercise for ten minutes three times a day.



Important

- Avoid immediately exercising the part of your body where you have injected insulin. For example, don't inject into your leg just before bicycling, or into your arm just before a game of tennis, or into your abdomen before doing sit-ups.
- Notify a family member and take a cell phone with you when you exercise – in case you need to call for help.
- Always carry identification or wear a bracelet or necklace (such as MedicAlert®) with your medical information and doctor's phone number, and an emergency contact name and number.
- Check your feet. Inspect your feet for sores or blisters and wear comfortable, proper fitting shoes.
- Choose thick, cotton blend exercise socks to prevent blisters and keep your feet dry. You might want to consider using an inner sole for extra foot support.
- Drink at least 15 ounces of water 30 to 60 minutes before you exercise and then continue to drink 12 to 15 ounces every 15 minutes during exercise - even if you're not thirsty.
- Avoid physical activity in hot, humid weather. During hot months, exercise in the early morning or the evening. Be sure to wear lightweight clothing and a protective hat for the sun.
- Don't exercise if you are sick. If you have a sore throat, fever, or chest cold, postpone exercise until you feel better.
- If you have untreated diabetic eye disease (retinopathy), talk to your doctor about the right activities for you. Certain types of resistance exercise – free weights, weight machines, or rubber exercise bands – can raise your blood pressure in the short term and may cause bleeding in the eye.

- Avoid alcohol before or immediately after exercise. Alcohol intake without food may increase risk of low blood sugar.