



Diabetes Self-Management Education and Support



Module 6
Being Active



In This Module You Will:

- List the benefits of being active.
- Recognize how to exercise safely.
- Describe how to adjust food intake to balance the impact of physical activity.
- Describe why medications and insulin are adjusted for physical activity.
- Develop a personal activity plan.



Being Active

Being active can help keep your blood glucose closer to your target range. This includes all the ways you move with a focus on spending less time sitting.

Being active is a key part of staying healthy. An active lifestyle can:

- Improve the body's ability to use insulin and glucose
- Get the heart rate up
- Burn calories
- Strengthen muscles and bones
- Lower blood glucose
- Delay or prevent long-term complications of diabetes
- Lose body fat
- Boost aerobic endurance
- Enhances mood
- Feel less stress or anxious
- Improve blood pressure and cholesterol
- Reduce chances of dying early



If you are already active – great job, keep it up! If you are inactive or feel out of shape – don't worry! You have the most to gain by moving a little more each day. Any amount of activity is better than none. By starting with small steps and adding more movement each day, you will begin to feel better and stronger. In time, you will be ready to do more!

Benefits of Being Active



PHYSICAL

Better Health - Improved quality of life - Improved fitness - Better posture
Better Balance - Stronger heart - Fight off illnesses better
Weight control - Stronger muscles - Stronger bones



EMOTIONAL

Increased feelings of happiness - positive mood and affect
Increased feelings of self worth - Better self esteem - Better self confidence
Increased feelings of success - Lower levels of sadness



MENTAL

Reduced depression - Reduced anxiety - Reduced stress
Prevented stress - Better sleep - Increased cognitive functioning
Increased mental alertness - Feeling more energetic and more relaxed



SOCIAL

Social integration - Meet new people - Build social skills
Increased support network - Strengthen relationships
Enjoy others' company - Increase family time - Build new friendships

Ways to Be More Active

Any amount of movement is better than none. Incorporating activity into your daily routine is a great first step. Here are some examples to help you get started:

- Walk to the mailbox instead of driving
- Use the stairs instead of the elevator
- Park further from the entrance of a store
- Use a shopping cart instead of placing a pick-up order
- Stand up/walk around/march in place during TV commercial breaks
- Work in the garden

Exercise, however, is a planned and intentional physical activity. It can improve endurance, flexibility, and strength.

Endurance: walking/hiking, biking, and swimming are aerobic exercises that improve endurance.

Flexibility: dance, Tai, Chi, yoga, and Pilates improve balance.

Strength: weight training and use of resistant bands strengthen muscles and bones.



Exercise Recommendations

Exercise is great for most people. But, if you aren't normally active, talk with your provider or healthcare team. You may need medical clearance before you begin physical activity. If you have high blood pressure or eye problems, some activities like weight-lifting may not be safe. Some individuals with diabetes may be asked to monitor glucose values more frequently before, during or after activity. Check the pre-activity guidelines found on page 7. Here are some general guidelines:

- Work your way up to 150 to 300 minutes of moderate to vigorous aerobic physical activity (exercise).
- Avoid going more than 2 consecutive days without physical activity.
- Aim for 2-3 sessions per week of strength training and 2-3 sessions per week of flexibility training.
- Avoid sitting for long periods of time. Interrupt sitting every 30 minutes.
- Children and adolescents should aim for 60 minutes of exercise each day.

General Safety Tips

- Always carry identification.
- Carry a cell phone in case of emergency.
- Include friends and family in your activities.
- Being active with a "buddy" is safer than being alone.
- Use the right safety equipment (such as a bicycle helmet).
- Wear proper footwear.
- Wear closed-toe shoes that fit comfortably.
- Wear sunscreen.
- Bring a whistle.
- Dress for the weather.
- Avoid being active for long periods of time in very hot or very cold weather.
- Walk in the evening if its too hot during the day.
- Skip planned activity if you're sick or not feeling well.
- Drink plenty of water before and during an activity.


Diabetes Specific Safety Tips

Here are a few additional safety considerations:

- Bring your glucose monitoring supplies (meter, lancet, test strips).
- Carry a fast acting carbohydrate like glucose tablets in case of a low blood glucose. Refer to **Module 1: Diabetes in a Nutshell** to review the list of "fast carbs."
- Wear a medical ID bracelet or dog tag indicating you have diabetes.
- Discuss with your healthcare team if medication adjustments are needed for your selected activity.
- Stay hydrated. Drink plenty of water.



Pre-Activity Guidelines

If You Don't Use Insulin	If You Use Insulin	If You Have Urine Ketones
<ul style="list-style-type: none"> • Being active may cause glucose to drop faster than usual. • Always check glucose with a meter or a continuous glucose monitor to help reduce the risk of lows. • Eat a snack with 15-30 grams of carbohydrate if blood glucose is under 90 mg/dL. • If taking an SGLT-2 Inhibitor, ask healthcare team for guidance. 	<ul style="list-style-type: none"> • Carry a snack. • Check glucose before, during, and after physical activity until you know what your glucose will do. • If blood glucose is under 90 mg/dL, eat a snack with 15-30 grams of carbohydrate. • During exercise, check in with your body. Pay attention to how you feel. If at any time you do not feel well, stop exercising. • Don't exercise when glucose is over 250 or if you have ketones in urine or blood. Talk to provider or healthcare team about what is a safe glucose for you. • Don't exercise right before bed, because this could cause hypoglycemia (low blood glucose) during the night. • The metabolic impact of exercise lasts for many hours. Some insulin using individuals experience low glucose during exercise, others the first 2 hours after an event and others for up to 18 hours after the event. 	<ul style="list-style-type: none"> • Delay physical activities until glucose is within the safe range agreed upon by you and your provider. • Give a correction dose of a fast-acting insulin (e.g., Novolog, Humalog) via syringe or insulin pen as directed by healthcare team. • For those using an insulin pump, don't exercise if urine ketones are present. • Drink 6-8 ounces of water or any sugar free, decaffeinated beverage every 30 minutes. • Retest glucose and ketones every 2 hours until ketones are negative, and glucose is within target. • NOTE: If ketones are moderate/ large and are vomiting or unable to keep fluids down, CALL 911 or go to the Emergency Room.

Exercise Snacks

If you are on insulin, SGLT-2, or sulfonylureas it can be important to eat a snack before you exercise.

Generally, 15 to 30 grams of a carbohydrate works best, however, it depends on the intensity and duration of the activity so talk to your dietitian for the best snack choices for you.

If you have low glucose during and after exercise, you need to eat an additional 15 gram carbohydrate snack and possible medication changes.



Examples:

One snack should be 50-75 calories and 15 to 30 grams of carbohydrate:

- 1 piece of fresh fruit
- 1 small box of raisins
- ½ peanut butter sandwich
- 1 rice cake with 1 tablespoon peanut butter
- 3 fig Newton squares
- ¼ cup nut and raisin (“Trail”) mix
- 1/2 cup chocolate milk

What are some challenges you face when starting a physical activity plan?

What is one goal you'd like to achieve regarding your current activity habits?

How do you plan to accomplish that?

Creating a Personal Activity Plan

1. Choose your favorite activities. Think about the things that YOU like to do. If you enjoy it, you are more likely to stick with it.
2. Begin with 5 or 10 minutes of the activity and work your way up to 30 minutes. Set an exercise goal of 30 minutes, 5 days a week (or more if you can!)
3. Don't over do it. Your activity should raise your heart rate, but not cause you to be out of breath.
4. Check your glucose. Follow the **Pre-activity Guidelines on page 7.**
5. Carry “fast carbs.” Glucose tablets or glucose gel are examples to keep in a pocket and have readily available during and after physical activity.
6. Keep track of your activity. This will allow you to see if you are meeting your goal. Also, it will help you feel good about yourself and the progress you are making.
7. Find a friend to join you. Having someone to exercise with will help motivate and keep you going.
8. Take a class or join a league. Consider checking into a military gym, health club, or local recreation department. They may offer fun classes.



Modifying an Activity

Retinopathy, neuropathy, or cardiac issues may cause the need to modify a physical activity plan. Refer to **Module 7 - Reducing Risks** to learn more about these diabetes complications.

Retinopathy (damage to blood vessels in the retina)

- Avoid any rigorous exercise that puts pressure on your head and eyes.
- Avoid exercises where the head is below the waist.

Neuropathy (damage to the nerves, commonly hands and feet)

- Be sure to check feet daily especially after exercise.
- Monitor areas of less sensation (feet).
- Choose exercises that are low impact.
- Wear proper footwear.

Cardiac Issues (damage to the heart)

- Avoid strenuous exercise and heavy lifting.



Summary

This session reviewed the benefits of being active and how to exercise safely. Module 6 also explained how to adjust food intake, why medications and insulin are adjusted for physical activity and how to create a personal activity plan.

Key Points

- Being active is a key part of diabetes self-management.
- Physical activity can provide physical, emotional, mental, and social benefits.
- It is recommended to exercise 150 minutes each week and to include strength training 2-3 times each week.
- When exercising, it is important to follow general and diabetes-specific safety tips.
- If you have retinopathy, neuropathy, or heart disease you will need to modify the type of exercise you do.
- Creating a personal activity plan and setting goals will help you stay on track.

Before Next Class

- Review **Module 7: Reducing Risks**
- Write down your questions
- Work on your healthcare goal or changing a habit/behavior



Notes:



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