

Being Active

Being physically active helps to keep your blood glucose in a healthy range. Physical activity (exercise) makes muscles contract, causing them to absorb glucose for energy. This process happens much more quickly during physical activity than at rest.

Exercise Offers Important Benefits

- Lowers fasting blood glucose and improves insulin action
- Lowers blood pressure
- Lowers cholesterol and triglyceride (blood fat) levels
- Lowers your risk for heart disease and stroke
- Relieves stress and can improve your mood
- Burns calories, which can help you manage your weight
- Improves energy and ability to concentrate
- Helps you sleep better at night

Types of Physical Activity

There are three general types of exercise. Each type has unique health benefits, so you will want to include a variety of activities in your weekly routine. Check with your health care provider before starting any exercise program.

1 Aerobic Exercise

Aerobic exercise is any exercise that increases your breathing and heart rate for a prolonged period. Examples include brisk walking, swimming and dancing.

- Aerobic exercise uses glucose and fats for fuel, burning calories and helping to manage weight. It also strengthens the heart and lungs and improves circulation.
- If you haven't exercised recently, start with five to 10 minutes of gentle aerobic exercise at least five times per week. Gradually increase your time by five to 10 minutes.
- Aim for some type of aerobic activity at least 30 to 60 minutes a day, three or more days a week. Try not to skip more than one day. It may be easier to divide this time. For example, consider taking a 10-minute brisk walk after each meal.
- Mild to moderate intensity exercise tends to lower blood glucose. More intense exercise may cause an increase in blood glucose for one to two hours following exercise.

2 Strength Training

Strength training helps you lower glucose levels, build muscle, and lose weight. Also, exercise helps improve your strength and balance.

- Examples of strength-training exercises include sit-ups, lunges, Pilates, weight lifting and resistance bands.
- Always check with your health care provider before starting a strength-training program. Lifting too much weight can cause your blood pressure to rise or can cause injury.
- Strength train 2-3 times a week. Do exercises that use different muscle groups. Increase exercises as you get stronger
- Using correct technique is important for preventing injury. A personal trainer, physical therapist or exercise specialist can make a strength-training exercise program that works for you.

3 Flexibility Exercises

Flexibility exercises are important for protecting tendons, joints and muscles from soreness or injury during exercise. Regular stretching also helps increase your range of motion. Examples are yoga, tai chi, toe touches, side bends and head rolls. Flexibility exercises are *in addition to* aerobic and strength training.

- Stretch daily, holding each stretch for 15 to 60 seconds, or until you feel tightness or resistance. Repeat each stretch three to five times. Stretch your neck, arms, waist, hips, back, legs, ankles, toes, etc.
- Avoid bouncing or stretching to the point of pain.
- For the best results, stretch *after* your aerobic workout.

Begin and end workouts with five minutes of an easier-paced exercise to warm up and then to cool down.

Preparing for Exercise and Physical Activity

Being prepared and following these general guidelines can help keep you safe and injury-free during exercise.

- Protect your feet with shoes that fit well and are soft and absorbent.
- Check for blisters, cuts and reddened areas before and after exercising.
- Wear or carry diabetes identification at all times.
- Keep your glucose meter and supplies with you.
- Aim to keep your blood glucose level between 100 to 150 while exercising.
- Have a carbohydrate source available to maintain safe blood glucose levels.
- Drink enough liquid to replace what you lose from sweating.
- If you use insulin, you may need to reduce your mealtime insulin when you plan to exercise within one to two hours after eating.
- Consider checking your glucose every 30 to 60 minutes during exercise, especially if you use insulin.

If your blood glucose level is:	Then...
Less than 100 mg/dl	Eat a snack with 15 to 30 grams of carbohydrates before beginning exercise.
100-150 mg/dl	It's okay to exercise. (You may need to eat or drink 15 to 30 grams of carbohydrate every 30 to 60 minutes of activity to prevent low glucose levels.)
150-300 mg/dl	It's okay to exercise. You probably will not need to eat or drink any additional carbohydrates during exercise.
Greater than 300 mg/dl	It's okay to exercise <i>with caution</i> . Drink plenty of liquids. If you feel unwell, stop exercising.

Follow the guidelines on this page in order to stay safe during exercise

How to Create a More Active Lifestyle

In addition to exercising, try to stay active throughout the day. Getting up and moving helps to burn calories, to strengthen muscles and to manage blood glucose. For example:

- Walk or bicycle, instead of driving, when running errands.
- Take the stairs instead of the elevator—or at least get off a few floors early and walk the rest of the way.
- Do housekeeping or gardening.
- Play kickball, hide-and-seek, hopscotch, hula hoop, or jump on a trampoline with the kids.
- Walk, run, or go to the gym when kids are at practice or games.
- Carry items upstairs in two trips, instead of one.
- Arrive early enough to park farther away, so you can walk the distance.
- Take the time to walk your shopping cart back to the front of the store.
- Take regular activity breaks to stretch or walk around when watching television, working on the computer or reading.

Tips for Success

- Make a list of several physical activities you enjoy.
- Plan time to enjoy these activities each week, and vary them.
- Make exercise more fun by planning activities with friends or family.

- Include indoor activities on your list as alternatives for days when it is rainy or too hot to exercise comfortably outdoors.
- Record your progress, problem-solve your barriers, and reward yourself in meaningful ways for success.
- Find an exercise buddy to help you keep your appointment to work out!

Exercise Precautions

- Check with your health care provider before starting exercise. This is especially important if you have complications from diabetes.
- If you develop any of the following symptoms stop exercising and seek care immediately:
 - Chest pain, discomfort, or pressure
 - Discomfort or pain in other areas, such as one or both arms, the neck, jaw, back, or stomach
 - Shortness of breath, lightheadedness, nausea, or sweating
 - Abdominal discomfort that may feel like heartburn

Note:

Exercise may result in low blood glucose (hypoglycemia)

Exercise, which is fueled by pulling glucose from the muscles and liver, can help your insulin work better for the next day or two. Exercise can lead to low blood glucose especially if you are on insulin or diabetes pills.

To prevent hypoglycemia (low blood glucose), you may need to eat or drink extra carbohydrates before exercising. As a guide, consume 15 grams of carbohydrates for every 30 minutes of exercise.

If you exercise near meal time, consider lowering the dose of your rapid-acting or mealtime insulin in order to avoid low glucose levels. The exact amount you lower the dose (often 10 percent to 50 percent) will depend on your type of insulin and the type and duration of exercise.

For evening exercise, you may need to eat a bedtime snack containing carbohydrates.

*My health care provider recommends I reduce
my mealtime insulin*

for light to moderate activity by: _____

for harder activity by: _____