



Overview: Exercise has many benefits. Since exercise helps lower blood sugars, it is important to know what steps to take to prevent blood sugars from dropping too low.



Exercise and diabetes

Exercise can improve your health in many ways. It can:

- Help you lose and keep off weight
- Make your heart and lungs work better
- Lower your blood pressure
- Help lower your blood fats
- Make your muscles stronger
- Lower stress levels

If you have type 2 diabetes, exercise can also:

- Help your body use its insulin better
- Lower blood sugar levels
- Lower your risk of having a heart attack

Some people with diabetes have other health problems. It is important to choose an exercise that is safe. Here are some tips:

- Always check with your doctor before starting an exercise program. Your doctor may want to check your heart, blood pressure and eye status. He/she can then tell you what types of exercise are best for you.
- Check your blood sugar each time before exercise. If you take insulin or diabetes pills, you may need to have a snack before starting. If your blood sugar is too high, you should not do any exercise until it comes down. See below for more details.
- If you have foot problems, make sure you:
 - Wear shoes that fit well
 - Use insoles for more cushioning
 - Wear soft socks
 - Check you feet before and after exercise. If you have no feeling in your feet or you have severe foot problems, try:
 - Swimming
 - Biking
 - Rowing
 - Chair exercises
 - Arm exercises
- If you have severe eye problems, avoid:
 - Weight lifting
 - Jogging
 - High impact dance classes
 - Racquet sports
- Drink water before, during and after exercise
- Do not exercise in very cold or very hot weather

How much should you exercise?

Most people should do least 30 minutes of exercise 5 days per week.

If you cannot do 30 minutes all at once, break it up into 2 or 3 “mini” sessions. People with Type 2 diabetes should perform resistance training three times per week. You should also warm-up and cool-down for about 5-10 minutes. This includes slowly starting or stopping your exercise. Always stretch your muscles before beginning your exercise. You might want to have someone help you find a safe exercise program. Ask your doctor if he or she knows a good trainer. You can also check with local health clubs or a YMCA.

What about blood sugar and food?

Exercise lowers blood sugar levels. If you take insulin or diabetes pills, your blood sugar levels may get too low during or after exercise. Some people may have a low blood sugar up to 24 hours later. You can help avoid this by checking your blood sugar and eating more food. The chart shows you when and how much to snack.

Your snack should contain either starch or sugar. These foods turn to blood sugar quickly. You will need to take either 1 or 2 portions of a snack. Here are examples of a 1-portion snack

- 1/2 cup of juice
- 1 small piece of fruit
- 3 glucose tablets
- 2 tablespoons of raisins
- 1 cup of light yogurt
- 1/2 cup diet pudding
- 6 small hard candies

If you are exercising for more than one-hour, you may need to include some protein. This could be a piece of meat or cheese, 2 Tablespoons of peanut butter or ¼ cup of cottage cheese. If you take insulin or diabetes pills, use this chart to tell you when to snack before exercise:

How Long and Hard You Plan to Exercise	Exercise Examples	If Blood Sugar Is:	Then Eat This Amount Of Snack
30 minutes or less <i>Easy exercise</i>	Walking or easy biking	Less than 100	2 portions
		100-180	1 portion
		180 or more	no snack needed
About 1 hour <i>A little harder exercise</i>	Tennis, swimming, harder biking	Less than 100	2 portions of snack plus some protein
		100-180	1 portion of snack plus some protein
		180 or more	1 portion of snack
2 hours or more <i>Hard exercise</i>	Football, hockey, basketball, hard biking, hard swimming, running	Less than 100	Do not exercise until blood sugar is over 100. Take 1 portion of snack and retest in 15 min.
		100 – 180	Start with 2 portions of snack and some protein.
		180 or more	Test blood sugar each hour. Eat at least 1 portion of snack every hour

If You Have Type 1 Diabetes...

If your blood sugar is over 240 mg/dL and you have ketones in your urine, do not exercise. Wait until you blood sugar is below 240 mg/dL and the ketones go away.