



Exercise and activity for Type 1 Diabetes

Exercise and activity can help you feel good, have fun and be healthy.

When you are active, your muscles use sugar from your blood for energy. This could cause a low blood sugar. Low blood sugar is when your blood sugar is less than 4 mmol/L. It is also called **hypoglycemia**. When you take insulin, you need to plan ahead for exercise and other activities to avoid a low blood sugar.

This handout will show you how to play sports or take part in other activities safely with Type 1 diabetes.

How do I know when I have low blood sugar?

You may feel one or more of these symptoms:

- nervous or irritable
- sweaty
- very hungry
- unsteady on your feet
- a headache
- blurred vision
- shaky, faint or light headed
- weak
- difficulty thinking
- abdominal pain or upset stomach
- slurred speech
- numb or tingling lips, tongue, fingers, feet

If you have one or more of these symptoms, test your blood sugar to see if it is less than 4 mmol/L.

If your blood sugar is less than 4 mmol/L, you need to treat it right away. If left untreated, your symptoms could get worse and you could pass out. Follow the steps on page 3 to treat your low blood sugar.

Always carry your blood testing supplies with you. It may be hard to tell the difference between the symptoms listed above and the tired feeling you may get after you are active.

**If you are not able to test your blood sugar,
treat your symptoms right away.**

How do I treat low blood sugar?

Step 1

Stop what you are doing.

Eat or drink one of the following with **15 to 20 grams of fast-acting carbohydrate**:

- chew 3 to 4 B-D® or 4 to 5 Dex4 or 5 to 7 Dextrosol® glucose tablets
- 3 to 4 teaspoons or 3 to 4 cubes or 3 to 4 packets of table sugar (may be dissolved in water)
- 3 to 4 teaspoons of honey or corn syrup
- $\frac{3}{4}$ cup to 1 cup regular pop (not sugar-free or diet)
- $\frac{3}{4}$ cup to 1 cup fruit juice
- 6 to 8 Lifesaver® candies

Step 2

- Sit down and rest for 10 to 15 minutes.
 - If you can, recheck your blood sugar levels.
 - If your blood sugar is still less than 4 mmol/L or if the symptoms of low blood sugar do not disappear, repeat step 1.
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How can I be active and play sports safely?

Here are some guidelines to follow:

1. **Inject insulin into an area that is not being used for that activity.**

If you inject insulin near a muscle that is working hard, the insulin will work faster and this can cause low blood sugars. Use the stomach area to inject insulin for all types of activities.

2. **Test your blood sugar level before the activity.**

Delay exercise if your blood sugar is less than 4 mmol/L or more than 14 mmol/L with ketones. Call your health care team if you need help to manage your ketones.

3. **Test your blood sugar during the activity.**

If you are going to exercise longer than 30 minutes, check your blood sugar during the activity to monitor your blood sugar response to the activity.

4. **Test your blood sugar after the activity.**

During competitive activities such as a hockey game or a dance performance, blood sugars can go up at first and later drop low. This is due to changing levels of stress hormones, such as adrenalin. Low blood sugars can even happen during the night, long after the exercise is finished.



If your blood sugar is less than 4 mmol/L follow Steps 1 and 2 on page 3 to treat low blood sugar.

5. Drink lots of water.
6. Wear proper shoes and socks for physical activity to help keep your feet healthy.
7. Always wear MedicAlert® identification.
8. Always carry fast-acting carbohydrates such as glucose tablets, candies or juice.

What can I do to prevent a low blood sugar during activity?

In general, activities that last more than ½ hour can cause hypoglycemia.

To adjust for a planned activity that will last longer than ½ hour, you can eat extra food before the activity or you can decrease your insulin. You may need to adjust both your food and your insulin. Talk with your health care team about how to make these changes.

How do I adjust my food for an activity?

1. Eat a snack 15 to 20 minutes before the activity starts.
2. Eat 15 to 20 g of carbohydrate for each extra ½ hour of exercise.

The total amount of extra carbohydrates you need depends on how long you are active.

Examples of snacks with 15 to 20 g of carbohydrate:

- | | |
|--------|------------------------------------|
| 1 | 200 ml unsweetened fruit juice box |
| 1 | apple or banana |
| 1 | Quaker Chewy granola bar® |
| 2 to 3 | Chips Ahoy® cookies |
| 6 to 8 | Triscuit® crackers |
| 2 | large rice cakes |
| 1 | slice of bread |

These are only general guidelines. Your blood sugar level can vary. You will need to test your blood sugars before and after each activity.

How do I adjust my insulin for an activity?

For planned activities, you can avoid low blood sugars by adjusting your short or rapid acting insulin.

For planned activities **after a meal**, decrease the short or rapid acting insulin at that meal to **½ of your usual dosage**. For example, if you are going to figure skating or hockey practice one hour after dinner, take ½ of your usual dosage of short or rapid acting insulin at dinner.

If your blood sugar still goes too low when you take ½ of your usual dosage, the next time you do that activity, try taking less than ½ of your usual dosage.

**Testing your blood sugar often will help you learn what works best for you.
Talk to your health care team if you need help managing your blood sugars around exercise.**

What about activities at school or work?

Make sure you know of special days that will have extra activity so you can plan and adjust for it. You may need to bring extra food that day. Talk to your health care team to help you plan your insulin and food for your physical activity.



Carry extra snacks with you in case of an unplanned activity.