

Physical Activity and Type 1 Diabetes

Exercise helps everyone to be healthier. Diabetes does not have to get in the way of your activity or sports. Have fun! Exercise can affect your blood sugars. The effects vary for each person. Your diabetes team can help you make a plan so that you can safely exercise and be active.

Goals

- You/your child participates fully in activity or sport.
- You/your child avoids low blood sugars during and after activity.
- Coaches/athletic trainers are aware and prepared.

Benefits of Activity and Sports

There are many benefits for you/your child's health such as:

- Strong muscles and bones
- Healthy heart and blood vessels
- More restful sleep
- Better mood, reduced stress and anxiety
- More energy
- Better coordination, balance and endurance
- Better school performance
- Maintain a healthy weight

There are also benefits for managing diabetes. Activity helps to burn carbohydrates, helps insulin work better, and helps keep blood sugars in a healthy range. Those who join team sports learn team skills, make friends, build confidence, and boost self-esteem.

Be Prepared

- Bring glucose meter and supplies with you.
- Always carry fast acting carbs to treat low blood sugars (4 oz. juice, glucose tabs, small pack skittles).
- Provide the coach or your child with snacks or treatment for low blood sugars as needed (e.g., juice, fruit, cheese and crackers, and glucose tabs.)
- Make sure that you/your child has water to prevent dehydration. Tell the coach that you/your child will always bring supplies for checking blood sugars.
- You/your child should wear a medical alert bracelet during games. A nylon wristband with "type 1 diabetes" is a good option. (WIAA rules state that the medical alert should be taped and visible.)

What the Coach/Athletic Trainer Need to Know

Make sure that the coach knows that you/your child has diabetes. Let the coach know that you/your child can safely take part. Tell the coach what you/your child needs to stay safe during sports (i.e., checking blood sugars and treating low blood sugars). Think about adding school sports into your child's 504 plan. Also, think about who else needs to know how to give glucagon (e.g., coach). Make sure to give written instructions to the coach. This would include:

- Symptoms of high and low blood sugars
- Treatment
- Emergency contact information

Checking Blood Sugars

- Check blood sugar before and after activity.
- If activity is longer than one hour, check blood sugar every hour.
- Delayed low blood sugars can occur up to 24 hours after exercise. Set an alarm to check a blood sugar in the night. Make sure to do this on the days after sports tournaments, or at water or theme parks.
- Check ketones if blood sugars are >250 without a known cause.

Increased Blood Sugars

Exercise may increase blood sugars. A surge of adrenaline sends a message to your liver to release sugar with more intense sports (i.e. weight lifting, sprints, swimming, wrestling, etc.). Some people need a partial bolus of insulin prior to these activities to keep sugar close to target range.

Adjust Insulin for Activity

It is often best to reduce insulin rather than add extra food. If activity is less than 2 hours after meal, decrease the insulin dose given with the meal before activity. Most often, this means a change in the insulin to carb ratio. The diabetes team will help you make a plan that works for you.

Adjust Food for Activity

Even if you adjust insulin, you may also need to adjust food choices. Use these ideas below and the chart at the bottom of the page.

- Include snack choices with protein/carbs/fat such as:
 - ½ sandwich with protein
 - Crackers with cheese
 - Yogurt or yogurt drink
 - Mandarin orange (cutie) and cheese stick
- Drink plenty of water to stay hydrated.

Type of Activity	Examples	Blood Sugar Level	Suggested Carb Intake (without insulin)
Short duration/low intensity (can sing/talk)	<ul style="list-style-type: none"> • Walking • Leisure bike ride 	Under 100 mg/dL	15 grams carb
		Over 100 mg/dL	Extra carbs not needed
Moderate intensity	<ul style="list-style-type: none"> • Tennis • Golfing • Cycling • Jogging • Swimming 	Under 100 mg/dL	30 grams carb
		100-150 mg/dL	15 grams carb
		Over 150 mg/dL	Extra carbs not needed
Strenuous or high intensity (can't sing or talk) (high intensity sports may require additional 15 grams of carbohydrate every 45 min)	<ul style="list-style-type: none"> • Football • Hockey • Basketball • Strenuous swimming • Strenuous cycling • Shoveling snow 	Under 100 mg/dL	45 grams carb
		100-150 mg/dL	30 grams carb
		150-200 mg/dL	15 grams carb

Your health care team may have given you this information as part of your care. If so, please use it and call if you have any questions. If this information was not given to you as part of your care, please check with your doctor. This is not medical advice. This is not to be used for diagnosis or treatment of any medical condition. Because each person's health needs are different, you should talk with your doctor or others on your health care team when using this information. If you have an emergency, please call 911. Copyright © 8/2018 University of Wisconsin Hospitals and Clinics Authority. All rights reserved. Produced by the Department of Nursing. HF#8039.