

# Staying Healthy with Diabetes

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## How Exercise Helps People With Diabetes

Exercise is an important part of managing diabetes. It also helps you to stay healthy in other ways!

Here are some of the benefits of exercise:

- It helps your body use insulin
- It burns calories and builds muscle, which helps you reach and stay at a healthy weight.
- It strengthens your bones and muscles.
- It reduces your risk of heart disease and some types of cancer.
- It improves coordination, balance, strength, and endurance.
- It can increase your energy level.
- It helps you feel good about yourself and your abilities.
- It relieves tension and stress, relaxes you, and boosts your mood, too.

It is easy to get different types of exercise and remember that all exercise is great — from walking the dog or riding a bike to playing team sports — just be sure to be active every day. It can be hard to get used to exercising, but once you start to see and feel the changes in your body, it will be easier to continue.

Make sure you see your doctor before you start any exercise routine or sport because they can tell you exactly what your body needs.



## Be Prepared for Exercise

Be prepared. If you know that you will be doing exercise away from home, it is important that you are prepared for anything. You should pack:

- Testing supplies
- Medications
- A medical alert bracelet
- Emergency contact information
- Glucagon
- A copy of the diabetes management plan

You should keep these items together in a special backpack that is always ready in case of an emergency. It will also help to make sure you never forget anything like you might if you pack and unpack the bag a lot.



## Exercise Tips

Make sure you see your doctor before you start any exercise or sport because they can tell you exactly what your body needs and if you need to do anything different.

Here are a few tips to keep in mind:

- Adjust blood-testing schedules. You should always check your blood sugar before starting to exercise. Your doctor will tell you about any changes in how often and how many times you should check your blood sugar levels when you exercise.
- NEVER exercise if there are Ketones in your urine. This means that if your blood sugar is over 250 before you exercise you also need to check your urine for ketones
- Take insulin on schedule. Because exercise can affect insulin, your doctor might recommend adjusting the insulin dosage for exercise or sports. If you inject insulin, you should try to avoid giving injections in the part of the body most used in that sport (like injecting the leg right before soccer practice). If you wear an insulin pump, be sure that it won't be in the way for exercise and won't get disconnected or damaged. Talk to the doctor about what to do if you need or want to take off the pump during exercise.



## More Exercise Tips

Here are a few more tips:

- **Eat right.** Because you are exercising more, your body will require more energy. Your doctor may need to make changes to your meal plan to make sure that you are getting the proper nutrition to stay active. For example, they might recommend extra snacks before, during, or after exercise.
- **Bring snacks and water.** No matter what activity you are doing, like swimming or playing football, you should always have enough water and snacks with you. Some quick sugar will help if blood sugar dips too low and drinking water will help prevent dehydration.
- **Tell the coaches.** It is extremely important to tell your coaches about your diabetes and give them information from your doctor that explains what to do in case of an emergency. They should also understand that you might need to do extra things to control diabetes before, during, or after a game such as eating a snack or taking insulin.



## Take Control of Your Health

Having diabetes means that you need to stay in control of your health. It can be difficult to stay in control when you are around adults or other people in charge, but remember no one knows your body like you do! If you feel like you need a drink of water or a snack to bring your sugars back up, then do it.

When it comes to your health, it is okay to interrupt coaches and teachers. You should feel free to stop playing a sport or exercising to attend to your diabetes needs, like eating a snack for low blood sugar symptoms or checking blood glucose levels.



## Warning Signs During Exercise

It is important to know what signs to look for if something is wrong when you are exercising. If you do not regularly feel anything when you have a low blood sugar, you will need to check your blood sugar before, during and after any exercise.

One problem is that you can get low blood sugar (hypoglycemia). You may have low blood sugar if you are:

- sweating
- lightheaded
- shaky
- weak
- anxious
- hungry
- having a headache
- having problems concentrating
- confused

You can also get high blood sugar (hyperglycemia). You may have high blood sugar if you:

- feel very thirsty
- have to pee a lot
- feel very tired
- have blurry vision

Since exercise affects insulin, your doctor can prevent hypoglycemia and hyperglycemia by changing your insulin dosage according to how much exercise you are doing.

## Other Warning Signs to Remember

There are a few other things you need to remember when exercising as a person with diabetes.

You want to keep an eye on cuts, scrapes, or blisters. If you find one, be sure to tell your parents or doctor right away if they're really red, swollen, or if they're oozing pus — they might be infected, which can make your diabetes harder to control.

You should not exercise if you have ketones in your blood. If you have ketones in your blood, exercising can make things worse and you can get very sick. Your doctor will tell you how to figure out if you have ketones, how to treat this problem, and how to get back on track.





## Blood Sugar AFTER Exercise

Exercise can also cause blood sugar to run low up to 24 hours after you stopped exercising!

This is because when you exercise your body will use something called glycogen, which is how your body stores extra sugar. It is stored in your muscles and liver. When you exercise your body uses the glycogen in your muscles first, then the glycogen in your liver.

Hours after you have stopped exercising, your body will try to refill the used glycogen stores and will pull sugar from your blood to do this. This means your blood sugar could go low while you are sleeping.

If you have done a lot of exercise in a day, it is a good idea to check your blood sugar in the middle of the night (maybe when you get up to go to the bathroom). You might want to have a protein snack at bedtime on days when you do a lot of exercise. Protein eventually breaks down to sugar but it takes a few hours, this can help keep your blood sugar from going too low while you sleep.

If you are starting a new sport or exercise routine, talk with your diabetes team about ways you can prevent your blood sugar from going too high or too low so you can have fun and enjoy yourself.

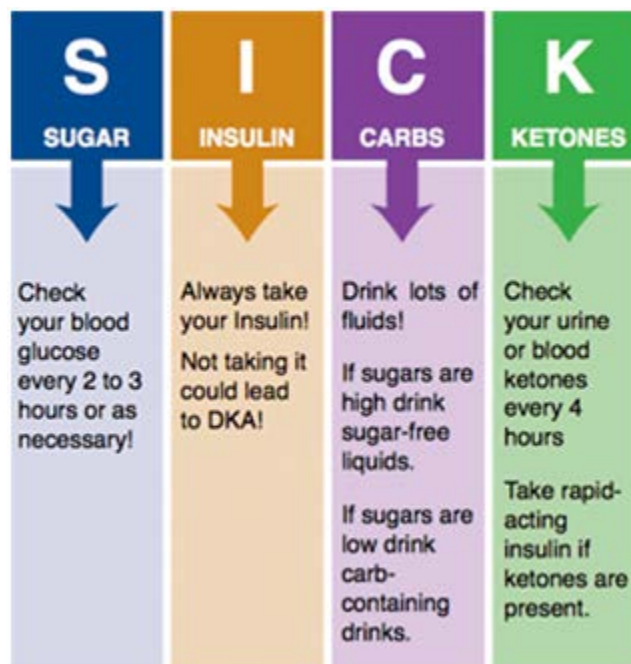


## Being Sick with Diabetes

Being sick can be hard on anyone, but when you have diabetes, it can get even more complicated. When you are fighting an illness, your body needs extra energy to get better. But as the body tries to get the extra energy, it can drive blood sugar higher.

On top of that, many illnesses make you lose your appetite, feel nauseated, or throw up. That can cause the opposite problem — low blood sugar.

Because blood sugar can go up or down on sick days, it will need to be checked more often. And your insulin might need some adjustment, too, so make sure you tell your doctor and parents how you are feeling so that they can help you take care of yourself.



## SICK DAY Handout When You CAN Eat

<b>SICK DAY AT A GLANCE (CAN EAT)</b>							
If Your child CAN EAT	BG Testing	Ketone Testing	Food & Beverage	Humalog Novolog for food (U/Carb)	Humalog/Novolog correction	Long acting Insulin (Lantus, Levemir) <b>*Pump Basal Rate</b>	Follow Up or Continued Correction
<b>CAN EAT</b> with Neg-Small Urine Ketones or Blood Ketones Neg- 1.5	Every 2 hours	* Every trip to bathroom or diaper change  * Every 4 hours if testing Blood Ketones	*Usual meal plan with extra water or sugar free fluids (as much as possible)	*Usual units/carb	*Usual correction scale at meals.	*Usual dose at usual time  *No change to pump basal rate	* If 5 years or older ~ Continue to correct between meals every 2 hours if BG is 250+ * If less than 5 years ~ Continue to correct every 2 hours if BG is 300+
<b>CAN EAT</b> with Mod-Large Urine Ketones or Blood Ketones greater than 1.5	Every hour	*Every trip to bathroom or diaper change  *Every 4 hours if testing Blood Ketones	*Usual meal plan with extra water or sugar free fluids (as much as possible)	*Usual units/carb	*Usual correction scale at meals	*Usual dose at usual time *Pump if BG over 250 and improved with correction, but elevated at next check, increase pump basal by 50% for 2 hours then reassess	* Continue to correct every hour if BG is 250+  * If BG not less than 250 & Ketones Mod-Large after 3 hours <b>call RN or MD on call</b>
<b>CAN EAT</b> But not Usual Amount with Neg-Small Urine Ketones or Blood Ketones Neg- 1.5	Every 2 hours	Every trip to bathroom or diaper change  *Every 4 hours if testing Blood Ketones	Eat what you can at meal times, bland foods (see food & drink guidelines)	*Dose your U/Carb for all carbs	*Usual correction scale at meals.	*Usual dose at usual time  *No change to pump basal rate	*If 5 yrs or older ~ Continue to correct between meals every 2 hours if BG is 250+ -if less than 5 yrs~ continue to correct every 2 hours if BG is 300+.
<b>CAN EAT</b> but Not Usual Amount with Mod-Large Urine Ketones or Blood Ketones greater than 1.5	Every hour	*Every trip to bathroom or diaper change  *Every 4 hours if testing Blood Ketones	*Eat what you can at meal times, bland foods (see food & drink guidelines)	*Usual units/carb	*Usual correction scale at meals.	*Usual dose at usual time *Pump if BG over 250 and improved with correction, but elevated at next check, increase pump basal by 50% for 2 hours then reassess	Continue to correct every hour if BG is 250+  * If BG not less than 250 & Ketones Mod-Large after 3 hours <b>call RN or MD on call</b>

The clinic at UIC has a great handout with a chart that explains what you need to do when you are sick and CAN eat.

This chart is also used for parents so you can ignore the reference to “your child”

Here are some main points to remember from the handout:

- Always take your long acting insulin (Lantus or Levemir) when you are sick
- Pay attention to the amount of rapid acting insulin (Humalog, Novolog, or Apidra)
- Checking the urine for ketones is very important when you are sick because your body will require more insulin when ketones are present

If there are ketones in your urine or have any questions or don’t know what to do, be sure to call the UIC emergency numbers to get help!

## SICK Day Handout When You CANNOT Eat

The clinic at UIC also has a great handout with a chart that explains what you need to do when you CANNOT eat.

This chart is also used for parents so you can ignore the reference to “your child”  
 If you have ketones in your urine or ever have any questions or don’t know what to do, be sure to call the UIC emergency numbers to get help!

### SICK DAY AT A GLANCE (CAN NOT EAT)

If Your child <b>CAN NOT EAT</b>	BG Testing	Ketone Testing	Food & Beverage	Humalog Novolog for food (U/Carb)	Humalog/ Novolog correction	Long acting Insulin (Lantus, Levemir)	Follow Up or Continued Correction
<b>CAN NOT EAT</b> but <b>CAN DRINK</b> fluids with <b>Neg-Small Urine Ketones</b> or <b>Blood Ketones Neg- 1.5</b>	*Every 2 hours	* <b>Every</b> trip to bathroom or diaper change  * <b>Every 4</b> hours if testing Blood Ketones	*If BG is less than <b>150</b> all fluids pushed have <b>SUGAR</b> *If BG 151-250 first 2-4 oz per hour with sugar, all additional fluids sugar free * <b>BG250+ ALL</b> fluids should be <b>sugar free</b> or water	*Not Applicable	* <b>NO</b> correction if BG is less than <b>250 or 300</b> (if less than 5 years old) -If <b>5 years or older</b> and BG <b>250+</b> <b>correct every 2</b> hours with usual	*Usual dose at usual time  <b>Pump</b> -if BG less than 100mg/dl decrease basal by 40% if BG over 100 no change to basal	If BG <b>less than 100</b> <b>call RN or MD on call</b>  If BG <b>not less than 250</b> after 3 corrections (6 hrs) <b>call MD or RN on call</b>
<b>CAN NOT EAT</b> but <b>CAN DRINK</b> fluids with <b>Mod-Large Urine Ketones</b> or <b>Blood Ketones greater than 1.5</b>	*Every hour	* <b>Every</b> trip to bathroom or diaper change  *Every 4 hours if testing Blood Ketones	*If BG is less than <b>150</b> all fluids pushed have <b>SUGAR</b> *If BG 151-250 first 2-4 oz per hour with sugar, all additional fluids sugar free * <b>BG250+ ALL</b> fluids should be <b>sugar free</b> or water	*Not Applicable	*If BG is <b>less than 100</b> <b>call MD or RN on call</b>  * If BG <b>250+</b> you <b>must correct every hour</b> with usual correction dose.	* Usual dose at usual time  <b>*Pump</b> if BG over 250 and improved with correction, but elevated at next check, increase pump basal by 50% for 2 hours then reassess	If BG is <b>not below 250</b> and Ketones still <b>Mod- Large</b> after 3 hours <b>call MD or RN on call</b>
<b>CAN NOT EAT or DRINK</b> or <b>VOMITTING</b> with <b>Mod-Large Urine Ketones</b> or <b>Blood ketones greater than 1.5</b> or <b>BG less than 100</b>	* Every hour	* <b>Every</b> trip to bathroom or diaper change  * <b>Every 2 - 4</b> hours if testing Blood Ketones	*If BG is less than <b>150</b> all fluids pushed have <b>SUGAR</b> *If BG 151-250 first 2-4 oz per hour with sugar, all additional fluids sugar free * <b>BG250+ ALL</b> fluids should be <b>sugar free</b> or water	*Not Applicable			<b>Call MD or RN on call or Go to Emergency Room</b>

## Diabetes and Weight

Being at a healthy weight is a good idea for everyone, but if you have diabetes, it is even more important.

Why? Because having extra weight can make it harder to keep blood sugar levels under control.

If you have type 2 diabetes, you should remember that being overweight is directly related to it. Most people are overweight when they first find out they have it. The extra weight can make it harder for their bodies to use glucose, the way it should. If you have type 2 diabetes, it is best to get to a healthy weight by eating right and exercising.



## Are You at a Healthy Weight?

After all the information you just read, you are probably wondering by now if you are at a healthy weight.

Talk to your doctor about whether or not you should lose weight to manage your diabetes. If it turns out you don't need to lose weight, you can still help your health by eating good-for-you foods and getting a lot of exercise.

It can be hard to hear that you need to lose weight and you might feel upset or sad if your doctor tells you that you may be overweight. As hard as this can be, try to focus on what is best for you, which is getting healthy. With some help from your family, doctor, and the rest of your health care team, you can do it!

You should know that having diabetes means that you should stick to your meal plans to make sure you stay healthy. You should never try fad diets or skipping meals to lose weight. Doing this can be dangerous and can cause more damage than you think. These things aren't good for anyone, and they're especially bad for people with diabetes. You need to keep your blood sugar levels on track, and extreme diets can mess them up. Also, never skip insulin injections to lose weight — it can make you get very sick in just a few hours!

If you follow your doctor's advice about food and exercise, you can reach your weight-loss goal — safely and successfully.



## School and Diabetes

The best way to stay in control of your diabetes is to let others know about it so they can help you too. Have your parents meet with your teachers to talk about helping you take care of yourself. That way, teachers and other school staff will know you have diabetes. They will know you need to check your blood sugar, take medication, or maybe visit the nurse sometimes.

You should take a copy of your diabetes management plan to school so that everyone is on the same page on your health and safety. Part of being responsible is that you will need to do your part to take control too.





## Tips for School

Here are a few things to keep in mind at school to manage your diabetes:

- Be prepared. Always have your diabetes supplies with you! Have a parent help you pack your diabetes stuff, like medicines, testing supplies, lunch, snacks, water, and any other things that your doctor recommends. Don't forget to wear your medical identification necklace or bracelet if you have one.
- Speak up. You are in charge of your diabetes, so it is important that you speak up when it is time to take care of yourself. Sometimes you need to do certain things to manage your diabetes, like test your blood, have a snack, or take medicine. You may find yourself in a situation that can be uncomfortable for you to interrupt, like taking a test, but this is your health so it is extremely important that you speak up. When you can, let your teacher know in advance that you'll need to step out. If a new teacher or coach doesn't know about your diabetes, tell the person or have your mom or dad write a note.
- Know what to do if you have a problem. If you find yourself in an emergency situation, it is important to know who you can turn to. Find out who can help you if you have a question or health emergency. If the school nurse isn't in, is there someone else who can help? Should you or the school call your doctor or your parent?
- Keep your parents updated. Let parents know about any changes, problems, or issues that you have with your diabetes while you are at school. They might decide to call your doctor about it so you can find a solution to any problems.





## Coping with Diabetes

Having Diabetes is a 24 hours a day, 7 days a week job. There is no vacation. It is easy to see how all the care involved can become overwhelming for you or your family. It is important to be able to identify who you can go to for help.

If you are feeling more sad or nervous than usual, don't be afraid to talk to your parents about this. These are common feelings for anyone with diabetes. If you cannot talk to your parents about this, then call your diabetes team. Try to find an adult you trust that you can talk to about problems you are facing.

Meet with a psychologist or Social Worker soon after you have been diagnosed with diabetes. They have special training and can offer ideas and tips to help you cope with trying to manage your diabetes and live a happy life. Sometimes there are social workers or counselors at school you can talk to. Your diabetes team can help you connect with someone you can talk to.

It is important to remember that you are not alone. Even though you might be the only person at your school that has diabetes, there are many people out there who can relate to what you are going through. Your diabetes team can help you connect with others who have diabetes by providing you with information about diabetes camp, diabetes events such as basketball, or family activities. There are support groups that meet sometimes at local places like the library, or there are online support groups that might be more convenient for you to connect to.



## Online Support Groups

You can also find support online over the Internet. Here are a few websites where to can connect to others:

- [TypeOneNation](#) is a social network created by JDRF for people with type 1 diabetes, their family, and friends.
- [ADA's Teen and Young Adult Support Forum](#) provides an outlet for teenagers and young adults with diabetes to discuss unique and common issues related to their disease and to share solutions.
- The Joslin Diabetes Center has [discussion boards](#) for adults with diabetes, for teens, and for the parents of teens with diabetes.
- [DiabetesTalkfest](#).com hosts regular chats with some of the leading experts in diabetes.
- [TuDiabetes.org](#) is a program of the Diabetes Hands Foundation and offers an online community where members exchange ideas in blog posts and discussion forums.
- [Diabetes Community Advocacy Foundation](#) uses social media, such as Twitter chats and internet radio shows, to connect people with diabetes and foster support and education.
- [DiabetesMine](#) offers news, reviews, guests posts, interviews, videos, cartoons, and Q & A for people touched by diabetes



## Learn More Information

If you want to read more about any of the topics in this module, here are the websites where this information is from so you can read more:

To learn more information about Diabetes in general, KidsHealth offers a lot of information that is easy to understand. [Click here](#) to visit their website.

The Arkansas Diabetes Advisory Council has a great guide with lots of pictures about so many topics about diabetes.

[Click here](#) to get the guide.

Learning About Diabetes is an organization that offers lots of basic handouts for different diabetes topics. [Click here](#) to visit their website.

Great job! You're another step closer to finishing the CHECK Diabetes Online Program. Hopefully you now know more about how you can stay healthy with diabetes.

Now you can move on to the next topic, which has stories about how other people deal with their diabetes.

