



What Is Type 1 Diabetes?

For children and families

This handout answers common questions about your diabetes. If you want to learn more or if you have questions be sure to ask your healthcare provider.

What is diabetes?

Diabetes is a condition that causes the sugar level in your blood to become too high. In Type 1 diabetes, blood sugar levels rise out of control because the body has stopped making enough **insulin** (*in-suhl-in*). Type 1 is most common in children and young adults. Someone with Type 1 diabetes has to take insulin shots at least twice a day to stay healthy and to keep their blood sugar level near normal.

What is insulin?

Insulin is a chemical substance in the body (hormone) that is needed to keep blood sugar levels normal. It also helps the body use fat and protein. It is made in the **pancreas** (*pan-cree-us*), an organ near the stomach.

How did I get diabetes?

You don't catch diabetes, your body just stops making insulin. In some people the pancreas is damaged. And, over time the cells that make insulin are destroyed. Diabetes is an autoimmune (**awe-toe-ih-mewn**) process. "Auto," at the start of the word "autoimmune," means self. So, this disease process occurs when the body destroys its own cells — the cells that produce insulin.

At first the person does not know that anything is wrong. Only when nearly all the cells that produce insulin are destroyed does Type 1 diabetes develop.

What are the signs of diabetes?

You may have:

- Lost weight without trying.
- Had to use the bathroom a lot.
- Felt very hungry.
- Felt very thirsty.
- Started wetting the bed.
- Had trouble seeing.
- Felt tired.

Is there a cure?

No. There is no cure for diabetes. But if you work with your healthcare team, eat right and exercise you can live a great life and stay healthy.

What do we do now?

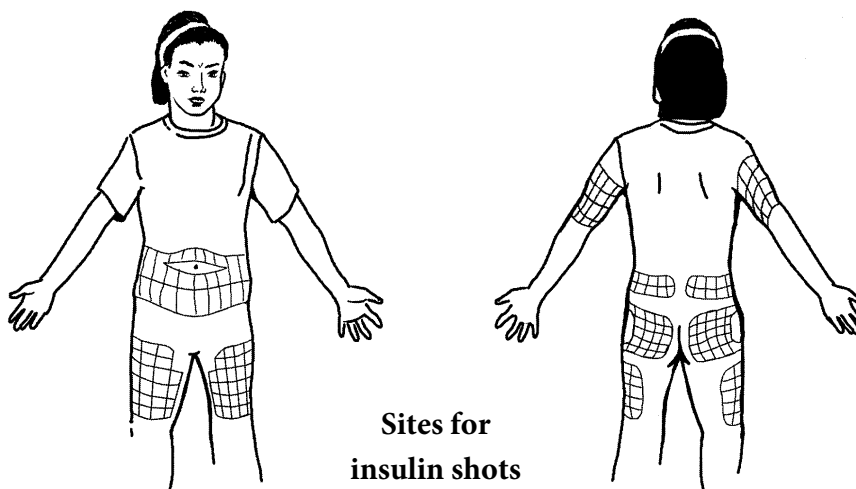
Start treatment with insulin

The goal of treatment is to lower blood sugar levels. This is done with insulin shots, testing blood sugars, a healthy diet and exercise.

Your doctor will tell you what kind of insulin to take. You need insulin to live. The shots replace the insulin your body no longer makes. If you are ready you can give yourself the shots. It might be scary at first, but believe it or not, you get used to it. A nurse will show you and your family how to do it. You'll get to practice on something like an orange.

An adult will have to help you draw up the insulin into the syringe (sir-inj). It is a tricky process and care must be taken to make sure that there are no air bubbles in the syringe. When you are older you can start drawing up your own insulin into the syringe.

This picture shows where to choose sites for shots.



Ask questions

There is a lot to learn about this disease. Be sure to ask questions or talk to someone about your concerns. Write your questions down as they come up so you remember to ask them when you meet with someone on your care team. Keep the phone numbers you'll need in a handy place.



Medical ID tag

Get a medical ID tag

Ask your healthcare provider about how to order an ID (identification) tag that alerts others that you have diabetes. There are many styles. You can choose a necklace or a bracelet. There are also tags that can be put on watchbands or you could carry a wallet card.

Eat healthy foods

When you eat, your body turns food into **glucose** (*glue-kohs*). Blood glucose (or blood sugar) levels go up. You prevent this rise by taking shots before

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meals and by eating healthy foods.

Some kids need to eat at about the same time every day, eat about the same amount of carbohydrates (kar-bow-high-drates) and to not skip meals. Check with your healthcare provider to see if you have to be this strict with your eating.

You will likely meet with a **dietician** (die-uh-tish-uhn) who will help work out a meal plan just for you. To make sure your plan fits your life, be sure to tell your dietician:

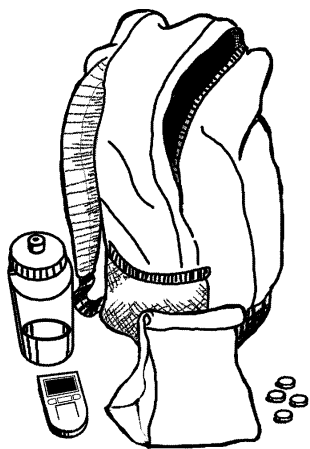
- What foods you do and don't like.
- What foods you often eat at home.
- What foods you eat when not at home.
- Your daily schedule and about your family's lifestyle.
- Your exercise habits.
- Who does the cooking and what they like to cook.
- About any other health problems you have.

Get exercise

Being active helps your cells take in glucose. It lowers the blood sugar levels in your body. So, exercise is good for most people with diabetes. Talk to your care team about a plan that will work for you. Walk, play soccer, rollerblade, swim. Do whatever is fun for you, but check with your doctor before making a big change in your exercise habits or starting a new sport.

When you exercise, or go on an outing:

- Check your blood sugar first.
- Take a backpack or duffel bag with you packed with:
 - a water bottle
 - glucose tablets, hard candy or juice
 - a healthy snack such as crackers and cheese or a sandwich
 - your diabetes supplies (meter, strips and other items you need to check your blood sugar).



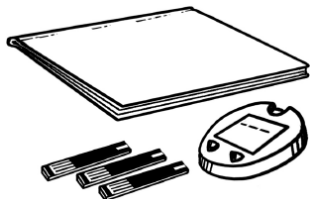
Bag of supplies

Test your blood sugar level

Someone on your care team will explain how to test your blood sugar levels. Most people do the test using a drop of blood from the tip of their finger or arm. A machine called a glucose monitor (also called a glucometer — glue-kohm-uh-ter) will tell you how much glucose is in your blood. There are many styles of glucose monitors and they use different methods of “reading” the blood sample.

You will also likely get a logbook to keep track of your blood sugar levels. Check your blood sugar level four to five times a day. Keep good records and bring them with you when you go for check-ups.

Your healthcare provider will tell you the blood sugar levels that you should try to maintain. These levels are expressed with numbers.



Blood sugar level book

Doing the testing helps you stay in control of your diabetes.

Test your ketones

Urine **ketone** (*key-tone*) testing is **very** important. A method for testing ketones must be kept in the home (and taken on trips) at all times. Urine ketones are chemicals that appear in the urine when body fat is being broken down for energy. Fat is burned by the body when there is not enough insulin to allow sugar to be burned for the energy needed by the body. Ketones are also formed when not enough food has been eaten to provide the energy the body needs.

Most times you will be taught how to test for ketones right when you are diagnosed as having diabetes. Frequent urine ketone tests are done the first few days to find out if enough insulin is being given to turn off ketone production. This is the first goal of treatment when you are first diagnosed. The second goal is to lower your blood sugar levels.

Testing of ketones is done because they can build up in your body and make you sick. Someone on your healthcare team will tell you what supplies to use to test your ketones and how often you should test for them.

Most times, you will be asked to test for ketones when your blood sugar is high or when you are sick. It is key to test them when you feel sick to your stomach or when you vomit. If you are sick, ketones can be present even when your blood sugar is not high.

Ketones are measured as being negative (which is good), small, moderate or large. When ketones are moderate or large, call your healthcare provider and tell the person who answers the phone that the call is *urgent*.

Follow a schedule every day

You may need to stick to a schedule each day. Your healthcare provider can help you set up a routine that works best for you. Your schedule depends on the kind of insulin you take and your family's needs.

- Good Morning!
- Check blood sugar
- Give insulin
- Breakfast
- Snack
- Check blood sugar
- Lunch
- Snack
- Check blood sugar
- Give insulin
- Dinner
- Check blood sugar
- Snack

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- Goodnight
- Check blood sugar

Remember to get some exercise everyday!

Know what to do if something goes wrong

Diabetes can cause four types of problems:

- Low blood sugar (also called **hypoglycemia** — high-poh-gligh-see-mee-uh).
- High blood sugar (also called **hyperglycemia** — high-per-gligh-see-mee-uh).
- Health problems with your eyes, heart, kidneys, nerves and feet.
- Ketoacidosis (kee-toe-ass-ih-doh-sis). Ketones building up in your body usually due to not enough insulin.

We have handouts about low and high blood sugar. They explain what causes each of these problems and what to do about them.

Know what to do if you are sick

Most times when you are sick it will affect your blood sugar levels.

Follow these steps when you are sick:

1. Check urine ketones any time you are sick. Even if your blood sugar is in the normal range, check ketones before meals and bedtime and every 3 hours if you are home sick from school or whenever you urinate.
2. Test your blood sugar every 2 to 4 hours or ½ to 1 hour when vomiting.
3. Never skip or stop insulin even if you don't feel like eating or you are throwing up (vomiting).
4. Call your healthcare provider if you think you need to adjust your insulin dose.
5. When your stomach is upset these “sick day” foods will give you 15 grams of carbohydrates. 15 grams of carbohydrates has been found to be the amount that will help start to bring up your blood sugar level if it is too low.
 - ½ cup apple juice
 - ½ cup Jell-O
 - ¾ cup soda with sugar in it
 - ¼ cup sherbet
 - 6 saltine crackers
 - 12 ounces of Gatorade
 - 1 slice toast
 - 6 ounces of All Sport
 - frozen fruit bar
 - Pedialyte (buy at drug store)

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To Learn More

- The Center website at www.cshcn.org
- Ask your child's nurse or doctor
- www.seattlechildrens.org

Free Interpreter Services

- In the hospital, ask your child's nurse.
- From outside the hospital, call the toll-free Family Interpreting Line 1-866-583-1527. Tell the interpreter the name or extension you need.
- For Deaf and hard of hearing callers 206-987-2280 (TTY).

6. Watch for signs of high blood sugar such as upset stomach, vomiting, moderate or large ketones in the urine, stomach pain and feeling tired or confused. Call your healthcare provider if you have any of these signs.
7. Drink more liquids. Sport drinks are a good choice.

To learn more

- Contact your healthcare provider.
- Call Children's Resource Line:
206-987-2500 or 1-866-987-2500
(toll-free Washington, Alaska, Montana, Idaho)
- Juvenile Diabetes Research Foundation International:
120 Wall Street
New York, NY 10005-4001
1-800-533-CURE (2873)
<http://www.jdf.org/>
- American Diabetes Association:
1701 North Beauregard Street
Alexandria, VA 22311
1-800-DIABETES (1-800-342-2383)
<http://www.diabetes.org/>

Adapted with permission from Children's Diabetes Education Handbook.



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Center for Children with
Special Healthcare Needs



Seattle Children's offers interpreter services for Deaf, hard of hearing or non-English speaking patients, family members and legal representatives free of charge. Seattle Children's will make this information available in alternate formats upon request. Call the Family Resource Center at 206-987-2201.

This handout has been reviewed by clinical staff at Seattle Children's. However, your child's needs are unique. Before you act or rely upon this information, please talk with your child's healthcare provider.

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