Pediatric Diabetes:
A family guidebook

This guidebook is for:

_____

This guidebook is to help you and your family understand diabetes and manage your child's care.

Lilly

Hôpital de Montréal pour enfants
Centre universitaire de santé McGill

Montreal Children's Hospital
McGill University Health Centre

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A family guidebook

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IMPORTANT

Information provided by this booklet is for educational purposes. It is not intended to replace the advice or instruction of a professional healthcare practitioner, or to substitute medical care. Contact a qualified healthcare practitioner if you have any questions concerning your care.

Centre universitaire de santé McGill
McGill University Health Centre

Office d'éducation des patients
Patient Education Office

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www.muhcpatienteducation.ca

Table of Contents

Dear Parent

A message from your diabetes team 6
How to use this guidebook 6
Who is the pediatric diabetes team? 7
When and who to call 8

Meeting your Diabetes Nurse: Learning the basics

Diabetes

Introduction 10
What is diabetes? 10
Finding the right health information for your child 11
Two types of diabetes: type 1 diabetes 12
Two types of diabetes: type 2 diabetes 12

Making Sense of Blood Sugar Results

What is blood sugar? 14
How do I interpret blood sugar results? 15
What are the signs of high blood sugar? 17
What do I do for high blood sugar (over 17.0 mmol/L)? 18
What are the signs of low blood sugar? 19
What do I do for low blood sugar? 20
How do I use my daily logbook? 21

Testing your Blood Sugar

What is a glucose meter? 22
How do I test blood sugar? 23
How do I replace the needle in the lancet device? 24
When do I test blood sugar? 25

Insulin

What is insulin? 26
What is my insulin dosage? 27
Where do I give insulin injections? 33
Changing where I inject 33
What is an insulin pen? 34
How do I prepare insulin injections with a pen? 35
How do I inject with an insulin pen? 36

Keeping track day-to-day

Making diabetes part of my daily routine 37
Eating tips 41
The pediatric diabetes prescription form 43

School Protocol

What to tell and bring to school or daycare 45
Low blood sugar (hypoglycemia) protocol 47
How do I treat hypoglycemia in a concious child? 48
How do I treat hypoglycemia in an unconscious child? 49

Appendix

Where to find us 51
How do I inject with an insulin syringe? 52
How do I test for blood ketones? 53
Help us help others 54
Access this guide online / Accéder ce guide en ligne 55

Dear Parents,

A message from your diabetes team

Your child has been diagnosed with diabetes. This is a stressful time for most families. You might feel overwhelmed with questions, information, and emotions following this diagnosis. You are not alone. Other parents are living the same experience as you and there is a health team here to support you.

Using our experience and what parents have told us, we have designed this guide so that it is useful, practical and easy to read. We hope that it will help as you learn about diabetes and how to make it a part of your daily lives. This guide will serve as a reference when you need to look up information during your meetings with the diabetes team at the hospital. You can also review it later at home.

We hope that this will support you during this stressful time and help you and your family adapt as you learn about life with diabetes.

The Pediatric diabetes team

How to use this guidebook

Throughout this coming month, you will meet several healthcare professionals who will provide you with a lot of information. Bring this guide to each of your appointments. It will help you make sense of and manage all this new information

This guide is divided into several sections, based on the different meetings you will have at the Montreal Children's Hospital Diabetes Clinic with the various member of your treatment team.

Children with diabetes can lead happy and fulfilled lives. We encourage you to read this guide and discuss it with your doctor, your nurses or other members of your treatment team. Ask us your questions. We are here to help!

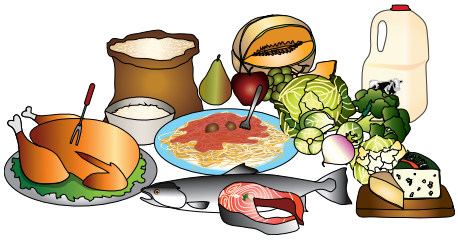
Who is the pediatric diabetes team?

The Montreal Children's Hospital Diabetes Clinic cares for about 600 children. Their ages range from as young as 1 year old to 18 years old. Each week, there is 1 child newly diagnosed with Type 1 diabetes.

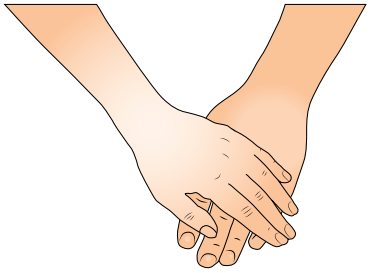
Your diabetes team includes:

The Endocrinologist is a doctor who specializes in diseases of glands, such as the pancreas which is affected in diabetes. When you come to the hospital, you will meet many doctors. All of these doctors are there to help you and your child. Besides your regular appointments with the endocrinologist, we strongly encourage you to keep taking your child to your pediatrician or to your family doctor. You will still need your regular medical care, along with the expert care of your endocrinologist.

The **diabetes nurse** clinician is a helpful person to contact to ask any questions about your child's health. She will be meeting and talking with you frequently after the initial diagnosis and then will meet with you yearly to offer you information that will be very helpful. Along with the other treatment team members, she will help you better understand your child's illness. She will help you and your child manage the everyday issues related to living with diabetes, (for example: taking insulin, working with your school or daycare).



The **nutritionist** is a helpful person to contact to ask questions about your child's eating habits, food choices, carbohydrate and meal plan. She will meet with you right after your child's diagnosis and then, once a year, to offer you important information for your child.



Social workers help the child/adolescent and their family with psycho-social issues such as: school problems, times of crises, adjusting to managing care with diabetes, relationship problems and financial concerns. They offer supportive counseling and can link you with community ressources and services.

When and who to call

Call the diabetes nurse for questions or concerns about:

- Changes to your insulin medication
- Diabetes issues at home, school or daycare
- Insulin doses for sports, special events or sick days (fever, infection, vomiting, and diarrhea)
- Missed or mistakes with insulin doses

The diabetes nurse is available on weekdays
Monday through Friday from 8 AM to 4 PM.
Phone: 514-412-4400, ext. 22860
Fax: 514-412-4264
Email : nancy.dumouchel@muhc.mcgill.ca
sandra.kambites@muhc.mcgill.ca
catherine.st-gelais@muhc.mcgill.ca

Call the nutritionist for questions or concerns about:

- Changes in appetite
- Help with meal plans and food choices
- Counting carbohydrates

The nutritionist is available on weekdays
Monday through Friday from 8 AM to 4 PM.
Phone: 514-412-4400, ext. 22348 (Lisa) or 62380 (Maude)
Fax: 514-412-4264
Email: lisa.piperno@muhc.mcgill.ca
maude.lafontainehebert@muhc.mcgill.ca
_____@muhc.mcgill.ca

Call the social worker for questions or concerns about:

- psychosocial issues of your child well-being

The social worker is available on weekdays
Monday through Thursday from 8 AM to 4 PM.
Phone: 514-412-4455
Email: dawn.davis@muhc.mcgill.ca
_____@muhc.mcgill.ca
_____@muhc.mcgill.ca

Call the diabetes secretary for questions or concerns about:

- Medication prescriptions
- Clinic appointments
- Letters for school or travel

The diabetes secretary is available on weekdays
Monday through Friday from 7 AM to 3 PM.
Phone: 514-412-4436
Fax: 514-412-4264
Email: helene.dubois@muhc.mcgill.ca

Call the diabetes doctor (endocrinologist) for questions or concerns about:

- An episode of extremely low blood sugar where you needed extra help
- Seizure during an episode of extremely low blood sugar
- Questions about the right insulin dose when sick (fever, vomiting, diarrhea)
- Questions about the right insulin dose with ketones
- Mistakes with or missed insulin doses

The doctor is available on evenings/nights or during the daytime if not able to reach the diabetes nurse
Phone: 514-412-4400, ext. 53333
Ask for the pediatric diabetes doctor on call (from the Montreal Children's Hospital)

* If you are not comfortable in English, you can ask for a French-speaking doctor when you call.

Your team of diabetes doctors at the Montreal Children's Hospital includes:

Robert Barnes
Helen Bui
Preetha Krishnamoorthy
Laurent Legault
John Mitchell
Meranda Nakhla
Constantin Polychronakos
Julia Von Oettingen

* **If you are not be able to reach the doctor on call, please call 911 or come to the Montreal Children's Hospital Emergency Department.**

Meeting your Diabetes Nurse: Learning the basics

Introduction

This section will cover the basic skills you will need to take care of your child at home. Your diabetes nurse will review all of this information with you during your first meeting. This meeting will last about 3 hours.

You will be given a lot of information. Do not be discouraged. It is normal to feel nervous or overwhelmed. Rest assured that your diabetes team will always be available to support you.

In the first few weeks, your diabetes nurse will speak with you very often. She will ask you about your child's blood sugar levels and the insulin doses you are giving your child everyday. She will make changes to these insulin doses quite often in order to get it just right.

At the beginning, your child will be started on a very low dose of insulin. This will give his or her body a chance to get used to a lower level of sugar in his or her blood.

Ask the diabetes nurse your questions. Discuss your concerns. She is here to help!

What is diabetes?

Your body needs sugar (or **glucose**) to grow and stay healthy. Sugar gives energy to the cells that make up all the parts of your body. It is also your brain's main source of fuel.

Diabetes is an illness where the body has trouble managing the right level of sugar in the blood (**blood sugar**) to meet its needs. This can lead to serious health problems, if not taken care of properly.

While there is no cure for diabetes, there is good news: There have been major advances in diabetes treatments over the last few years. Today, with proper care, your child can stay healthy and live a strong and active life.

Finding the right health information for your child

Many people may try to give you and your child health advice without knowing the details of your child's diabetes. You may also find information in books or on the internet which is confusing or misleading.

Be wary of the information that comes your way: the internet offers a lot of information. However, not all of it is correct. Also, not everything you read will apply to your child's unique situation.

Write down your questions or bring any information you have to share with your diabetes team. We are here to help you make sense of the information you have found and learn how it may apply to your child's health and diabetes.

Two types of diabetes: type 1 diabetes

There are 2 different kinds of diabetes: type 1 and type 2. Each type is treated very differently.

In type 1 diabetes, the pancreas (a gland in your body, next to the stomach) no longer makes insulin. Insulin helps transport sugar (glucose) from food into energy for your body. It does this by allowing blood sugar to enter the cells in the body. In this way, the body can use the sugar for energy.

Insulin injection is the only treatment for type 1 diabetes.

Facts:

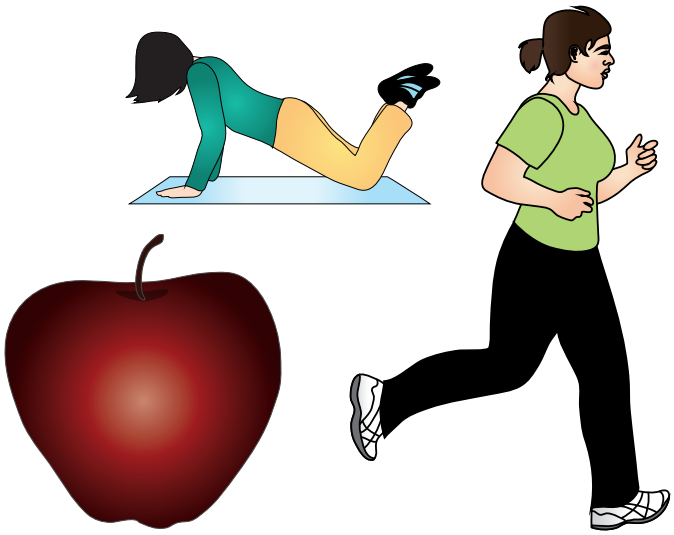
- Type 1 diabetes is also called juvenile, insulin-dependant, or pediatric diabetes.
- It is not caused by eating too much or having too many candies.
- 10% (or 1 in 10) of people with diabetes have type 1 diabetes.

Two types of diabetes: type 2 diabetes

In type 2 diabetes, the pancreas is making insulin but, it is not working well. This may be due to a number of different reasons, such as:

- Certain traits being passed down though your body's cells, from parent to child (genetics)
- an unhealthy weight
- an unhealthy diet
- no physical activity

Type 2 diabetes may be treated through lifestyle changes (healthy eating and weight loss through physical activity). Medication (pills) may also be prescribed to help insulin to work better. If that does not help, insulin injections may be prescribed.

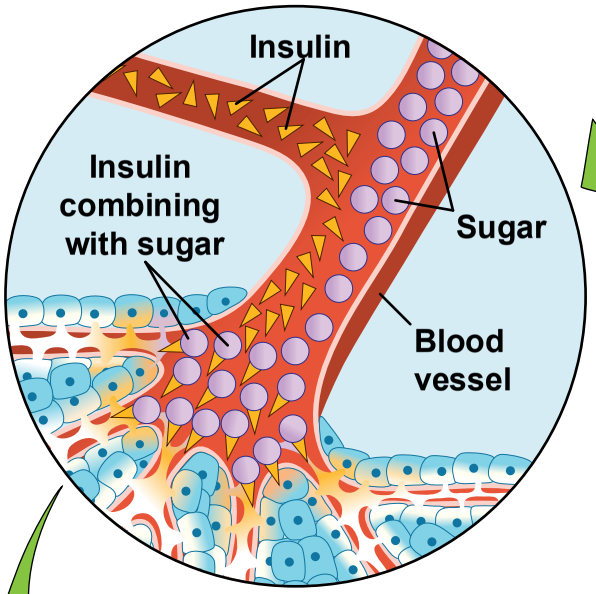


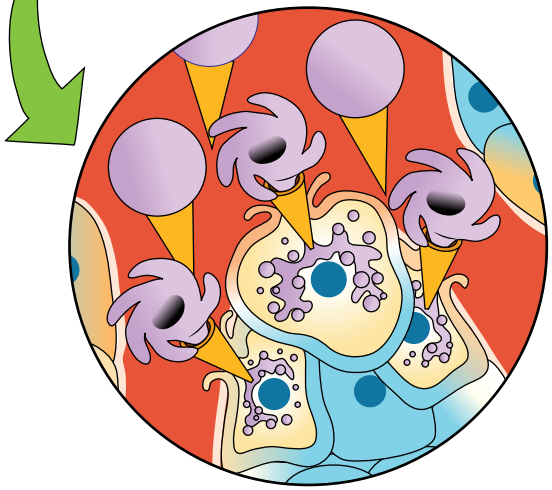
Facts:

- Type 2 diabetes is also called adult-onset or non-insulin dependant diabetes.
- 90% (or 9 in 10) of people with diabetes have type 2 diabetes.

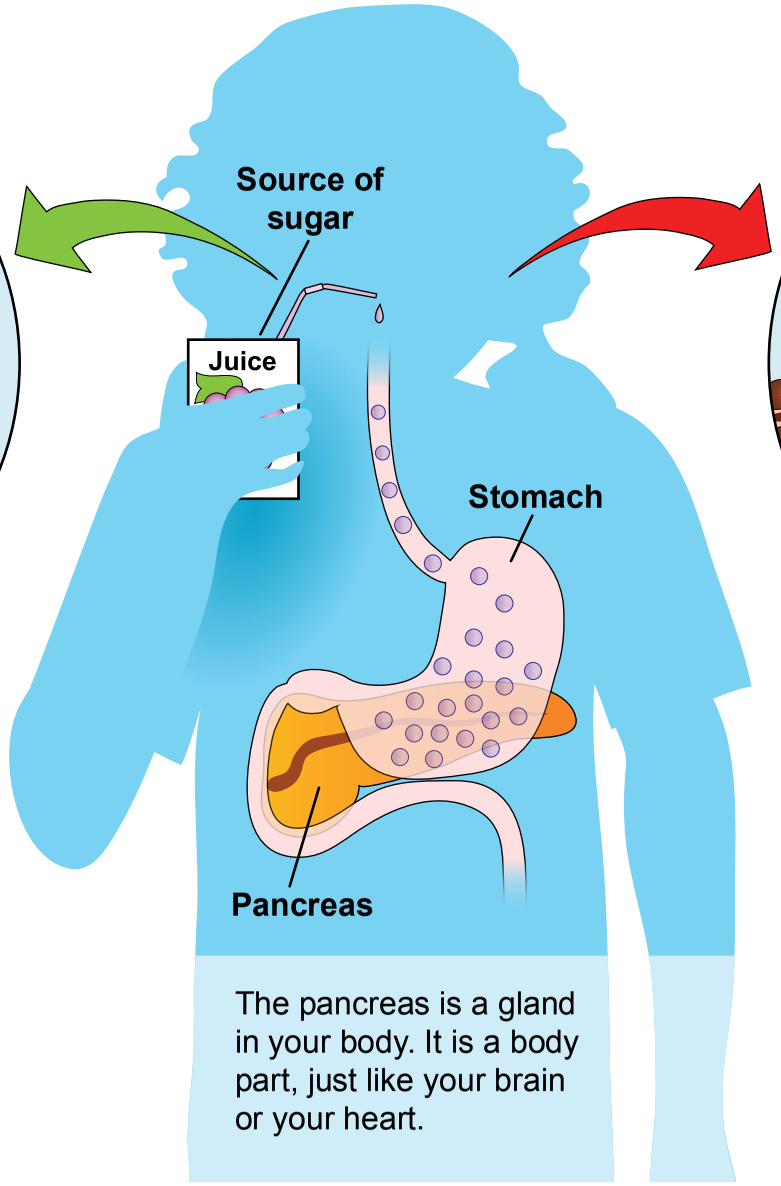
Type 1 diabetes

Normal
(healthy pancreas)

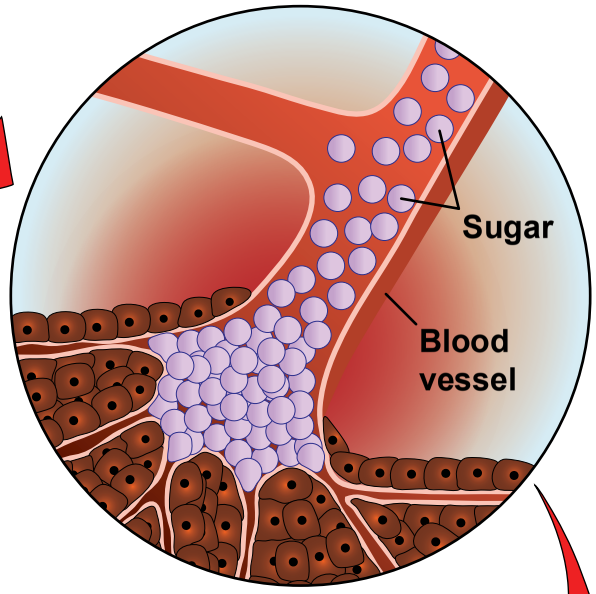


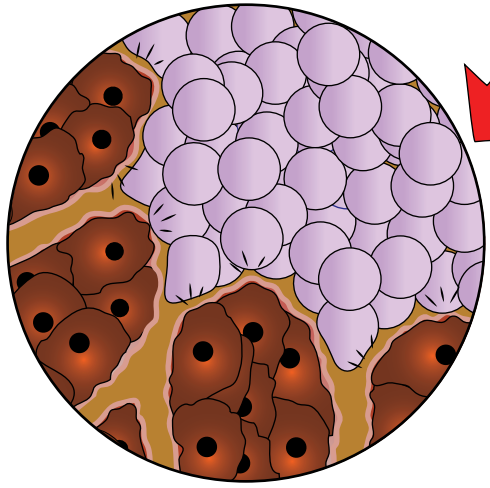


Insulin helps inject sugar into the cells to create energy.



Type 1 diabetes
(diabetic pancreas)

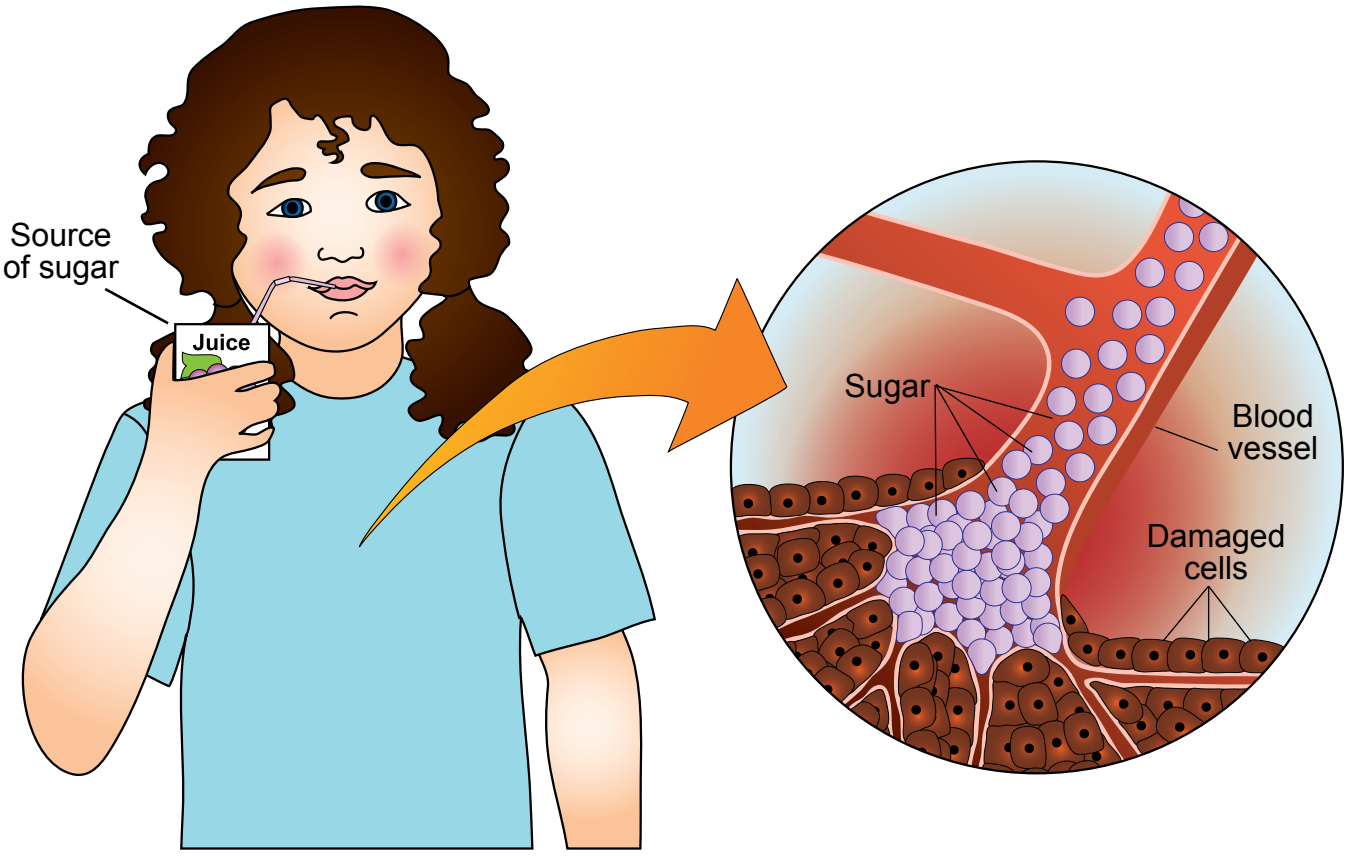




Without insulin, sugar builds up in the blood and is unable to enter the cells to create energy.

What is blood sugar?

Blood sugar (the amount of sugar found in the blood) comes from the food that we eat. People with diabetes must test their blood sugar level regularly in order to take the correct amount of insulin.

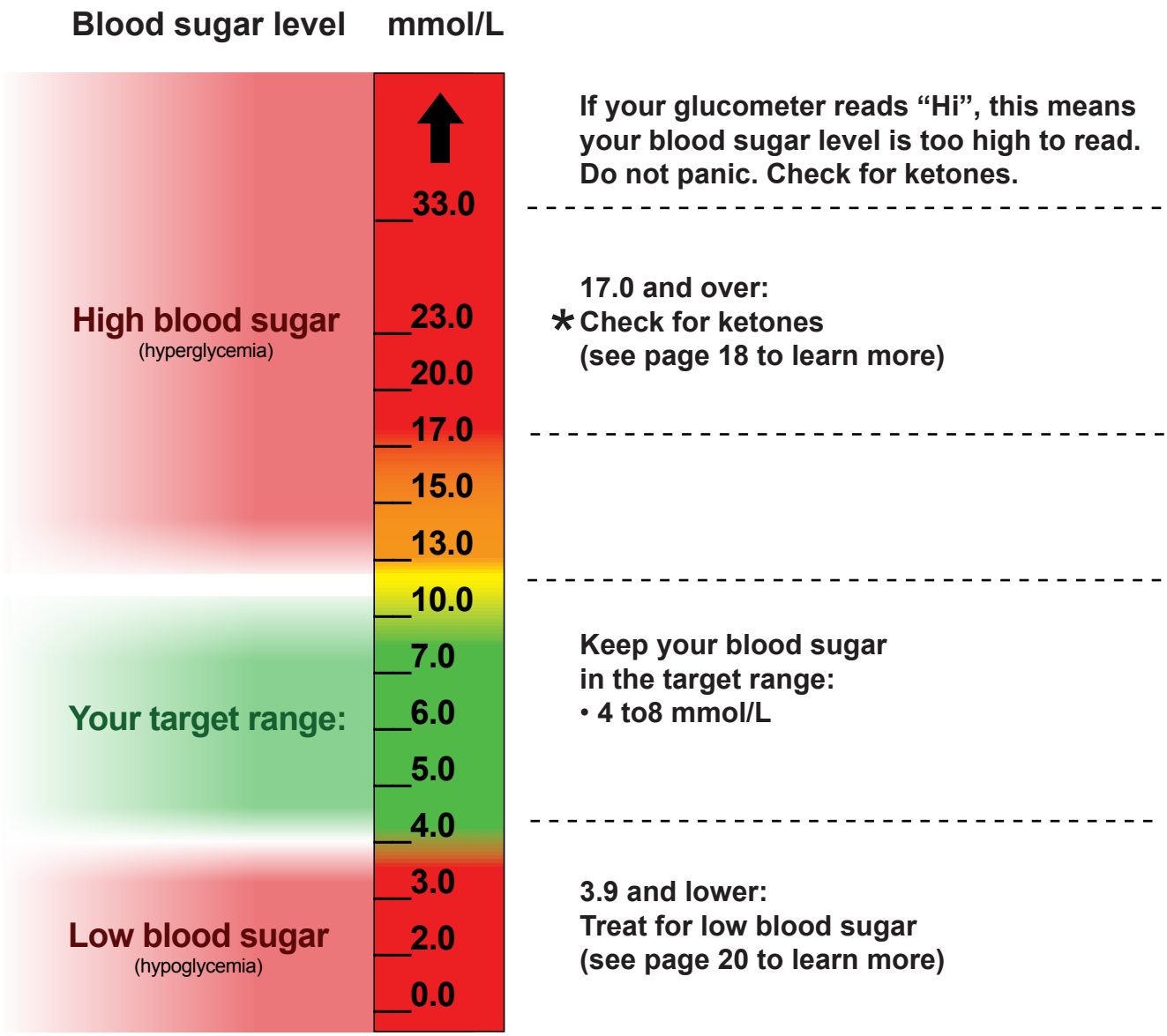


Children or teenagers with type 1 diabetes need to take 4 insulin injections per day. That means that they need to check their blood sugar at least 4 times per day.

Check your blood sugar at least 4 times a day to see if it is high or low. This is how you will know the right amount (dose) of insulin you need for your injections.

How do I interpret blood sugar results?

Once you have tested your blood and know your blood sugar level, you will need to make sense of what this means. This is key in helping you decide what actions to take.



In a person who has a healthy pancreas, the normal range for blood sugar is 4.0 to 7.0.

With diabetes, the healthy range to aim for is slightly different. It is between 4 and 8 mmol/L.

What are the signs of high blood sugar (hyperglycemia)?

If your child's blood sugar is over 10.0, this is called **hyperglycemia.**

Some symptoms of hyperglycemia include:

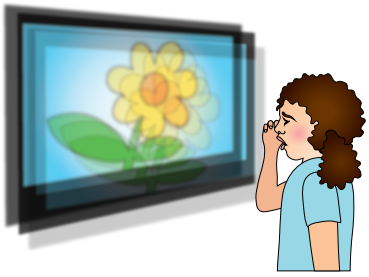
Drowsiness

Frequent urge to urinate

Extreme thirst

Dry mouth

Frequent bed wetting and/or waking up often at night



Blurred vision

It is normal for your child to have high blood sugar for the 1st week of treatment. Your diabetes team will work closely with you to help your child's blood sugar move to a healthy level over time.

Your child will not faint because of high blood sugar.

What do I do for high blood sugar (over 17.0 mmol/L)?

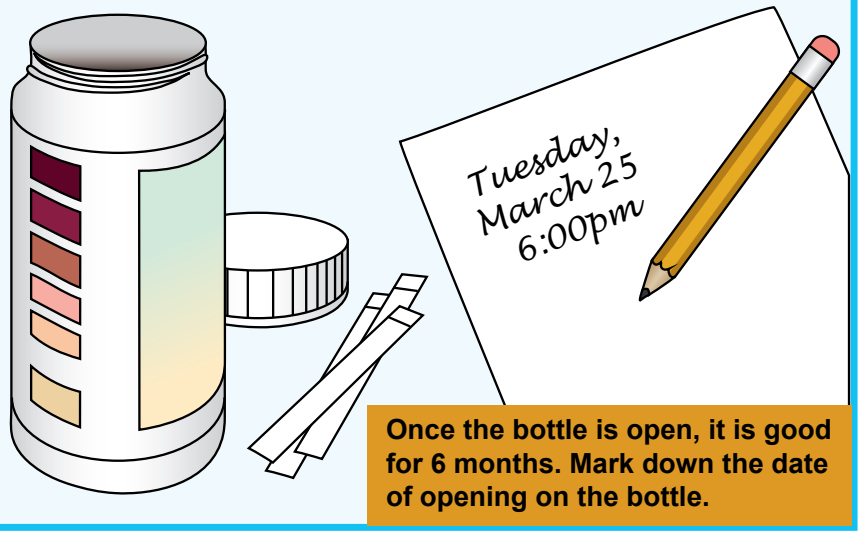
Check for ketones: do the urine ketone test (ketostix).

When insulin is in very short supply, the cells in your body have no sugar for energy. If this happens, your body begins to break down fat. During this process, it releases a type of acid called ketone.

Ketones in your urine is a sign that your body is using fat instead of sugar for energy. Test for ketones in your urine if your blood sugar is very high (over 17 mmol/L).

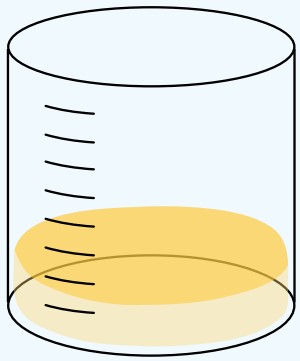
* If your child is at school, you do not need to check for ketones at lunchtime. Instead, check them at home that evening, if your child's blood sugar is still high at supper.

1. Open the bottle and mark down the date

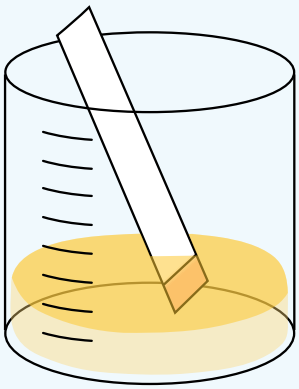


Once the bottle is open, it is good for 6 months. Mark down the date of opening on the bottle.

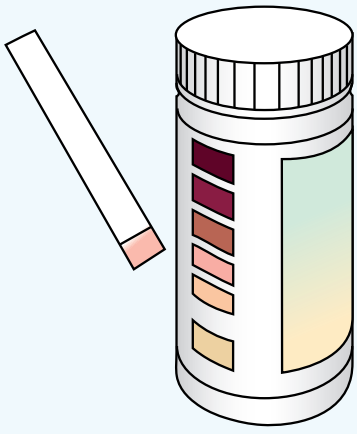
2. Ask your child to urinate (pee) in a container

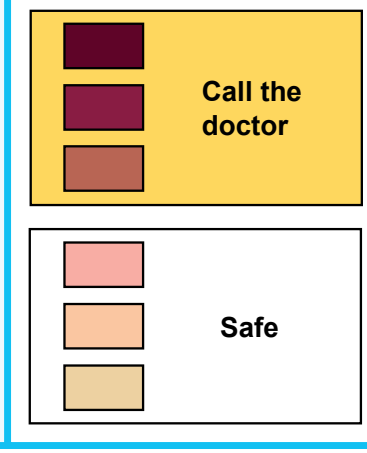


3. Dip the strip in the urine. Remove it right away.



4. Check the strip color with the colour chart on the bottle chart



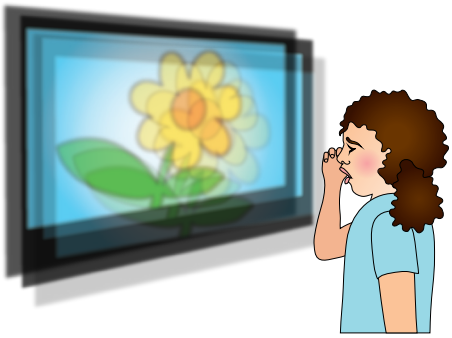


What are the signs of low blood sugar (hypoglycemia)?

If your child's blood sugar is below 4.0, this is called hypoglycemia.

Some symptoms of hypoglycemia include:

Trembling



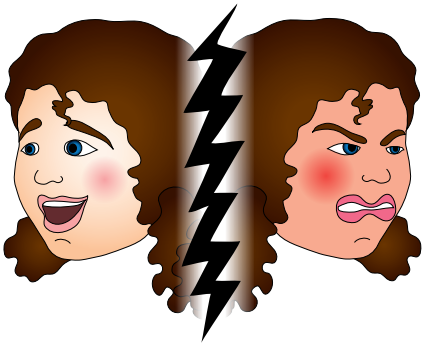
Blurred vision

Dizziness

Headaches

Sweating

Hunger



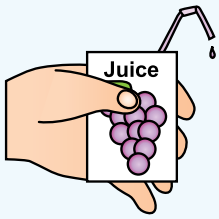
Mood changes

Extreme tiredness and paleness

What do I do for low blood sugar?

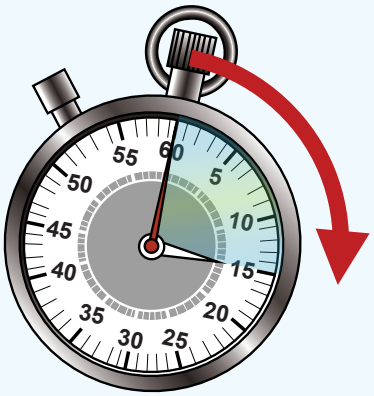
If your child's blood sugar falls below 4.0, give your child a juice box to drink. Do this, even if they show no signs of low blood sugar.

1. Give a juice box (any kind or brand of juice will do.)

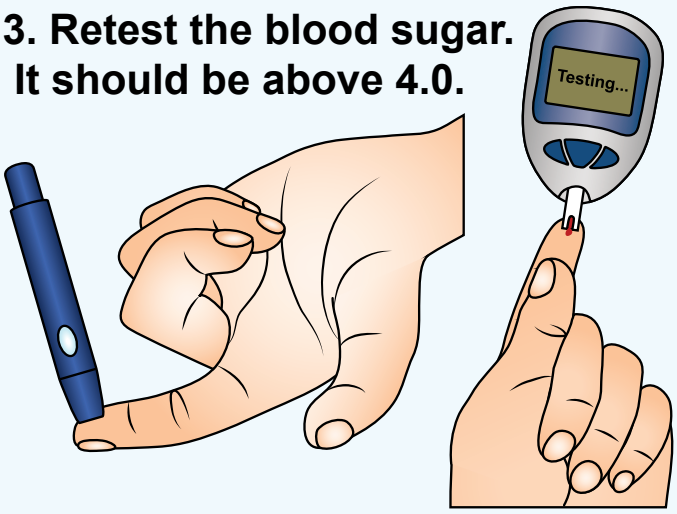


Juice (on its own) is the best way to bring up blood sugar, safely and quickly. Do not give juice with any other food. This will slow down the juice's effect.

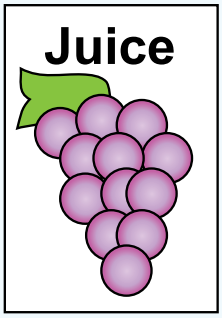
2. Wait 15 minutes. Do not leave the child alone.



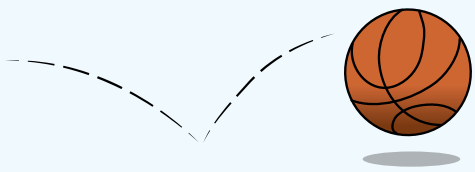
3. Retest the blood sugar. It should be above 4.0.



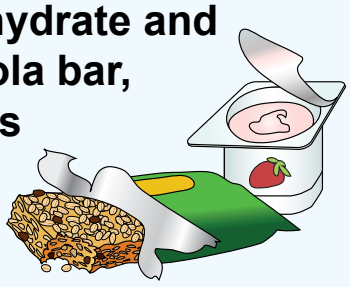
4. If the child's blood sugar is still below 4.0, repeat steps 1, 2 and 3.



5. When the blood sugar has returned to normal (above 4.0), the child may resume his/her activities.



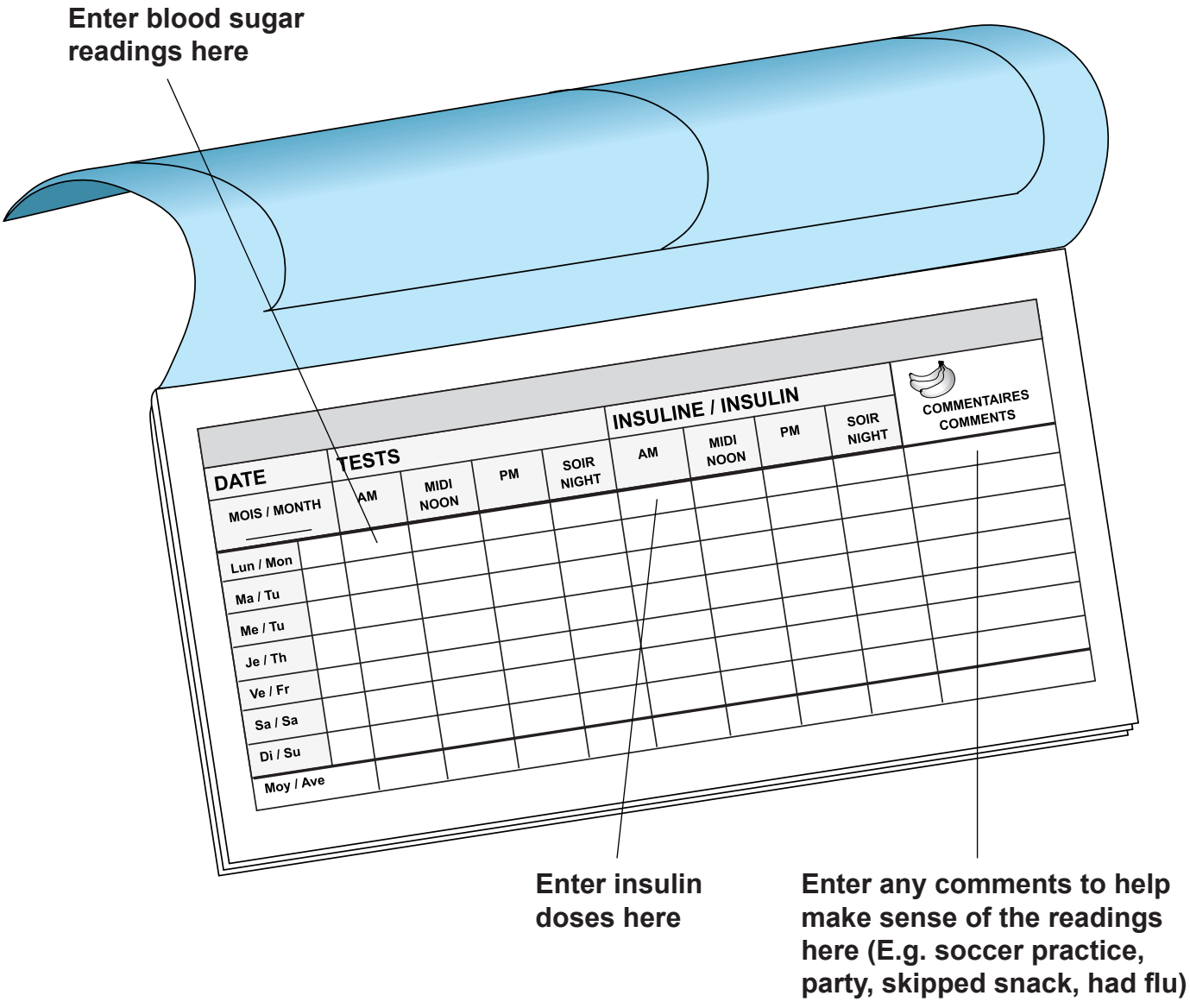
6. If the next meal/snack is more than one hour away, give a snack containing carbohydrate and protein (e.g. granola bar, yogurt, or crackers with cheese).



How do I use my daily logbook?

Your diabetes nurse will give you a logbook to help you keep track of blood sugar. Your logbook is an important tool for you to use with your diabetes team. It will help you work out together the best doses and schedule for you.

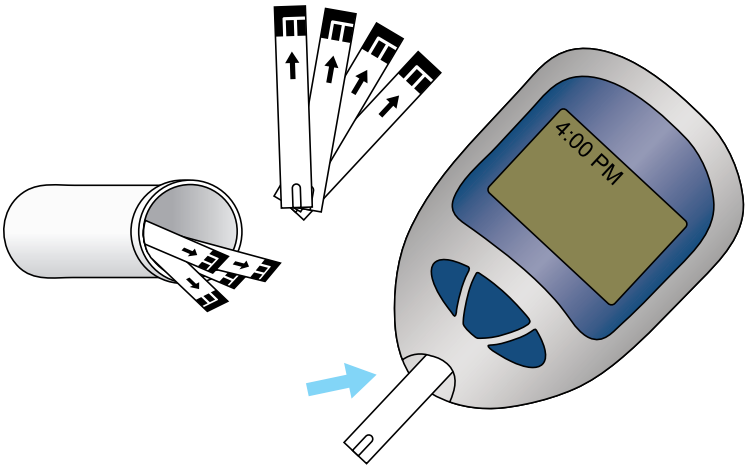
You will need to use this logbook everyday to record your blood sugar readings, your insulin doses, as well as any other important notes. The logbook is divided into 4 different sections (Date, Tests, Insulin and Comments). Each page covers a week of readings (Monday to Sunday).



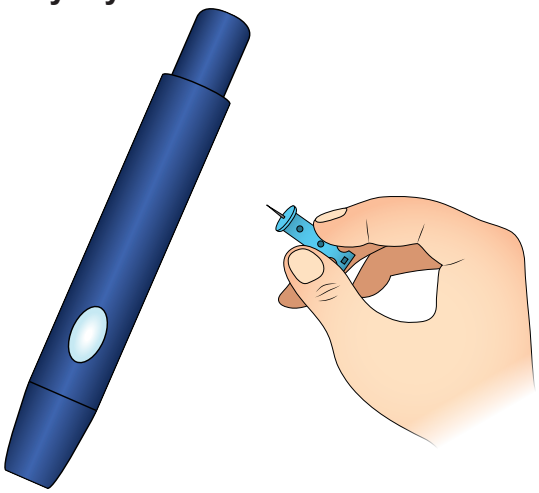
What is a blood glucose meter?

You will need to use a blood glucose meter to test your child's blood sugar levels. There are many meters on the market. Some are very sophisticated. Others are less fancy. In the end, they all do the same thing and are all good. Your nurse will give you a meter that she feels would be the most practical for your child to use.

Most meters use small tabs (or **test strips**) to hold tiny samples of blood. A new test strip must be used every time you test your child's blood sugar. **They cannot be reused.**



You will also need something to prick your child's finger. This is known as a **lancet** device. The lancet is the tiny needle in the device. **A new lancet must be used everyday.**

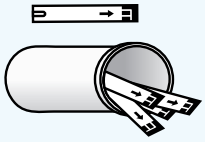


Do not share the lancet device with anyone else. It is only for one person (that is, your child) to use.

How do I test blood sugar?

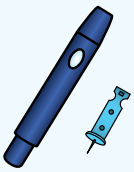
1. Gather your supplies

Blood glucose meter



Test strip

Hand cleanser



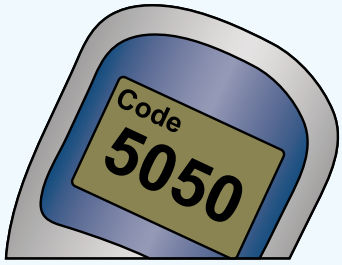
Lancet device and lancet

2. Wash hands (adult and child)

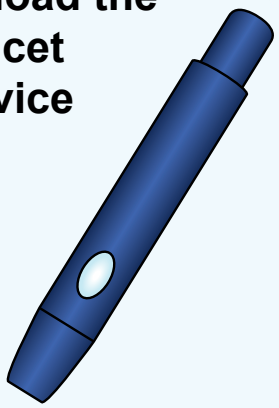
Use hand sanitizer or alcohol swabs if you are not near a sink

3. Insert test strip to turn meter "ON"

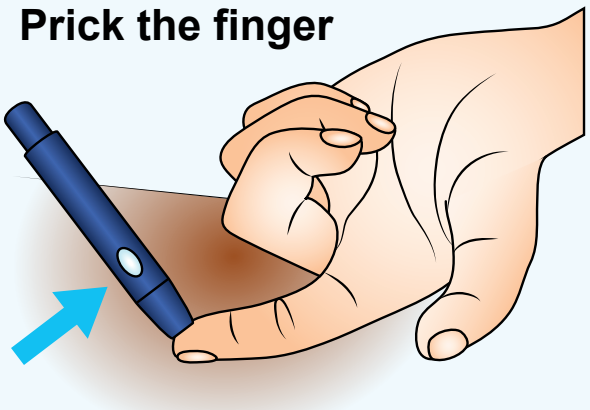
Some meters ask for a code when starting a new box/bottle of strips. This is for more acurate results.



4. Push or pull to load the lancet device

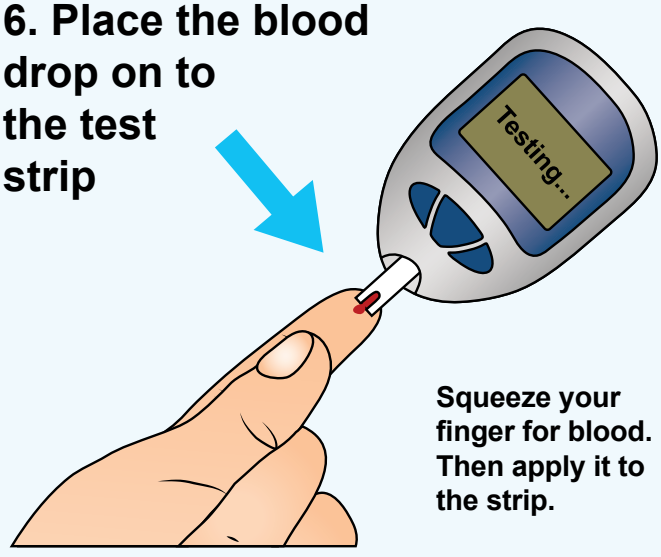


5. Prick the finger



Place the child's hand palm-up against a hard surface, place the lancet device against the pad of a finger and press the button to release the needle.

6. Place the blood drop on to the test strip

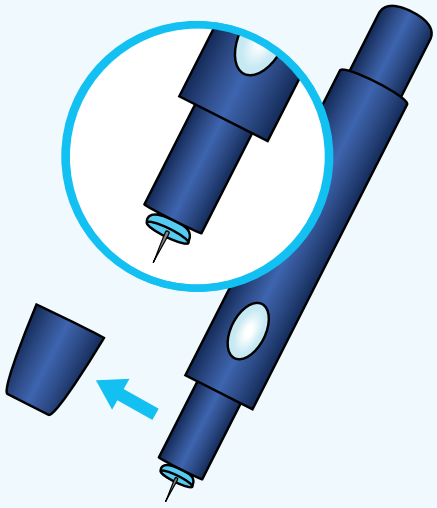


Squeeze your finger for blood. Then apply it to the strip.

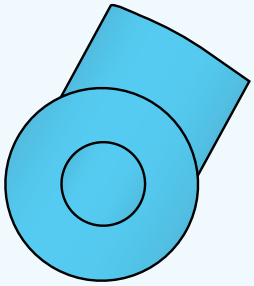
How to replace the needle (lancet) in the lancet device

1. Push the button to disable the lancet device

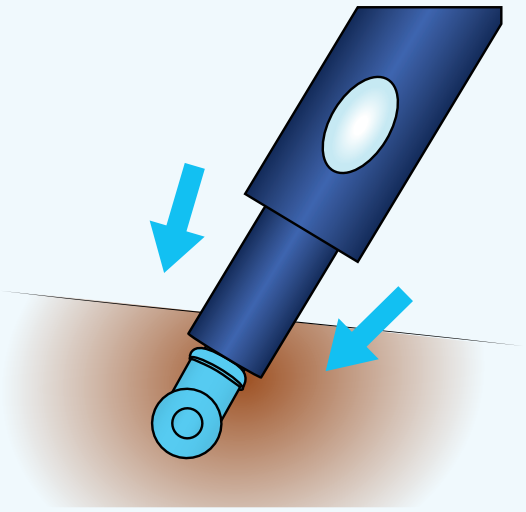
2. Remove the outer cover



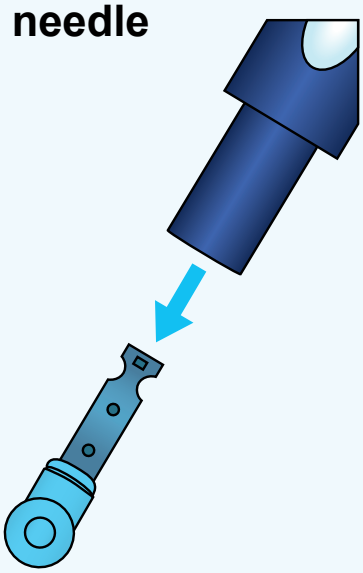
3. Find the small cap that came with the needle



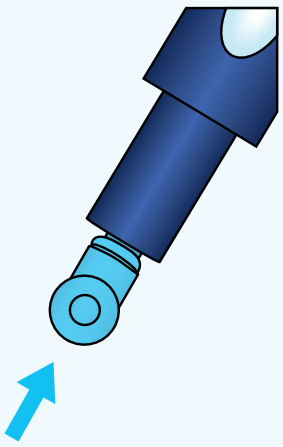
4. Push the lancet device into the cap



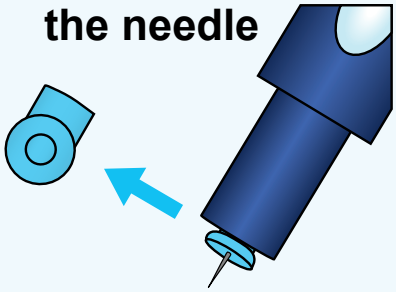
5. Pull out the used needle



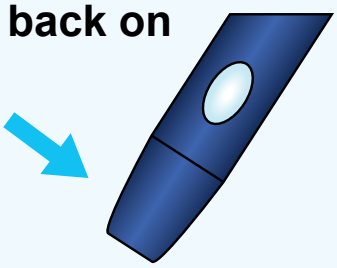
6. Push in a new needle



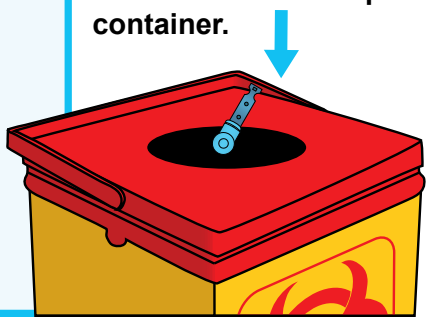
7. Remove the cap of the needle



8. Put the outer cover of the lancet device back on

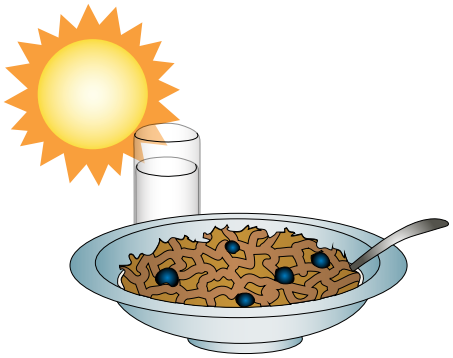


Throw the used needle out in a sharps container.

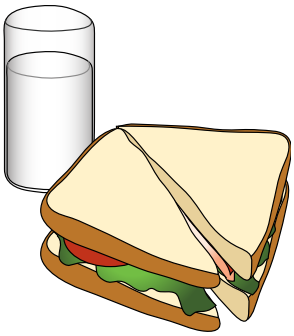


When do I test blood sugar?

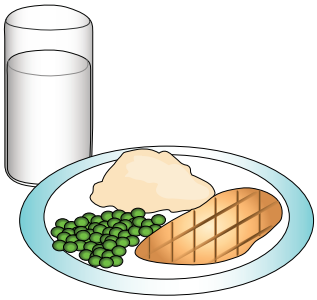
You will need to do at least 4 blood sugar tests a day:



Before breakfast



Before lunch



Before supper

Before bedtime snack

You should always test before a meal and before the bedtime snack.

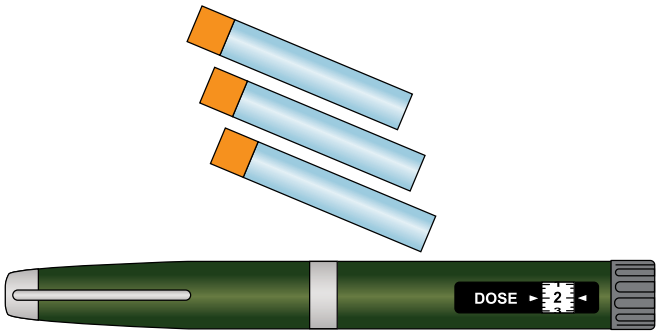
What is insulin?

Insulin is a hormone produced by the pancreas.

Your insulin comes in insulin cartridges that you can pick up at your local pharmacy. Each box contains 5 cartridges. Insulin can become damaged or not work well if it is not stored properly. To do so:

- Note the expiration date on the box. Your insulin should be used before this date.
- Store your unopened cartridges in the fridge.
- Do not freeze or overheat your insulin. When travelling, you will need to put it in a lunch box or cooler with an ice pack.
- Do not leave your insulin in the car (especially during the summer or winter).

Insulin may be given with a syringe or with an insulin pen. See pages 36 and 51 of this guide for more details on each.



Insulin can be kept at room temperature for 1 month only. Then you need to throw it out, even if there is some left in the pen. Remember: All unopened cartridges should be stored in the fridge.

There are different types of insulin that your child will need to take. Some types act quickly. Other types take more time. A combination of these different types of insulin is what will keep your blood sugar stable throughout the day.

What is my insulin dosage?

Insulin dosage refers to the exact amount of insulin you need to take during a period of time. Your diabetes nurse will discuss what this means for you. She will explain the:

1. Types of insulin you will need
2. Times of day to inject
3. Dose to prepare each time

Your child will need to take insulin several times a day:

- Breakfast (if your child is not able to inject insulin on their own at lunch, you will need to inject 2 types of insulin).
- Lunch (if your child is able to inject insulin on their own).
- Supper
- Bedtime

Your child will need to take several types of insulin: rapid-acting insulin, long-acting insulin and/or basal acting insulin.

Rapid-acting insulin

What is this?
This type of insulin starts to lower blood sugar within 5 -10 minutes of an injection. It lasts about 4 hours after the injection. This insulin looks clear.

When do I use this?
You need to inject rapid-acting insulin at breakfast and supper. It may be given at lunch if your child is able to inject insulin on his/her own.

How does the dosage work?
Your dose of rapid-acting insulin will be different each time (a variable dose). How much you inject will depend on your blood sugar reading. If your blood sugar is low, your dosage of rapid-acting insulin will be lower. If your blood sugar is high, your dosage of rapid-acting insulin will be higher. We call this type of dosing a sliding scale. Your nurse will explain what this means for you.

Long-acting insulin

What is this?
This type of insulin starts to lower blood sugar only 1 to 3 hours after injection. It lasts about 12 to 18 hours after the injection. This insulin looks cloudy.

When do I use this?
You need to inject long-acting insulin at bedtime. If your child is not able to inject insulin at lunch, he will also need an injection of this insulin in the morning.

How does the dosage work?
This dose is always the same (a fixed dose). Your nurse will explain what this means for you.

Basal acting insulin

What is this?
This type of insulin starts acting 1 hour after injection. It lasts about 24 hours. This insulin looks clear.

When do I use this?
You need to inject basal acting insulin at bedtime.

How does the dosage work?
This dose is always the same (a fixed dose). Your nurse will explain what this means for you.

Your dosage:

Breakfast:

Sliding scale for clear **rapid-acting insulin** ( ) pen colour:_____

Blood sugar	Units	Special Note
3.9 or less		Treat low first. When corrected give this dose.
4.0 - 8.0		
8.1 - 12.0		
12.1 - 17.0		
17.1 or more		Do urine ketone test.

_____ units of cloudy **intermediate-acting insulin** ( ) pen colour:_____

Supper:

Sliding scale for clear **rapid-acting insulin** ( ) pen colour:_____

Blood sugar	Units	Special Note
3.9 or less		Treat low first. When corrected give this dose.
4.0 - 8.0		
8.1 - 12.0		
12.1 - 17.0		
17.1 or more		Do urine ketone test.

Bedtime:

_____ units of cloudy **intermediate-acting insulin** ( ) pen colour:_____

Your nurse will review your insulin dose sheet and explain what this means for you. Keep in mind that for the first week after diagnosis, your dosage may change everyday. For this reason, you will be speaking with your diabetes nurse everyday for the first few weeks. She will be there to guide you and make any changes in your doses.

See page 35 and 36, *How do I prepare insulin injection with a pen?*

Call your diabetes nurse, or the diabetes doctor on-call, if you:

- **Are not sure of what dose to prepare.**
- **Have any questions or concerns.**

Keep your logbook and dose sheet handy when you speak with them.

Your dosage (children over 12 years old):

Breakfast:

Sliding scale for clear **rapid-acting insulin** ( ) pen colour:_____

Blood sugar	Units	Special Note
3.9 or less		Treat low first. When corrected give this dose.
4.0 - 8.0		
8.1 - 12.0		
12.1 - 17.0		
17.1 or more		Do urine ketone test.

Lunch:

Sliding scale for clear **rapid-acting insulin** ( ) pen colour:_____

Blood sugar	Units	Special Note
3.9 or less		Treat low first. When corrected give this dose.
4.0 - 8.0		
8.1 - 12.0		
12.1 - 17.0		
17.1 or more		Do urine ketone test.

Supper:

Sliding scale for clear **rapid-acting insulin** ( ) pen colour:_____

Blood sugar	Units	Special Note
3.9 or less		Treat low first. When corrected give this dose.
4.0 - 8.0		
8.1 - 12.0		
12.1 - 17.0		
17.1 or more		Do urine ketone test.

Bedtime:

_____ units of cloudy **intermediate-acting or clear basal insulin** ( ) pen colour:_____

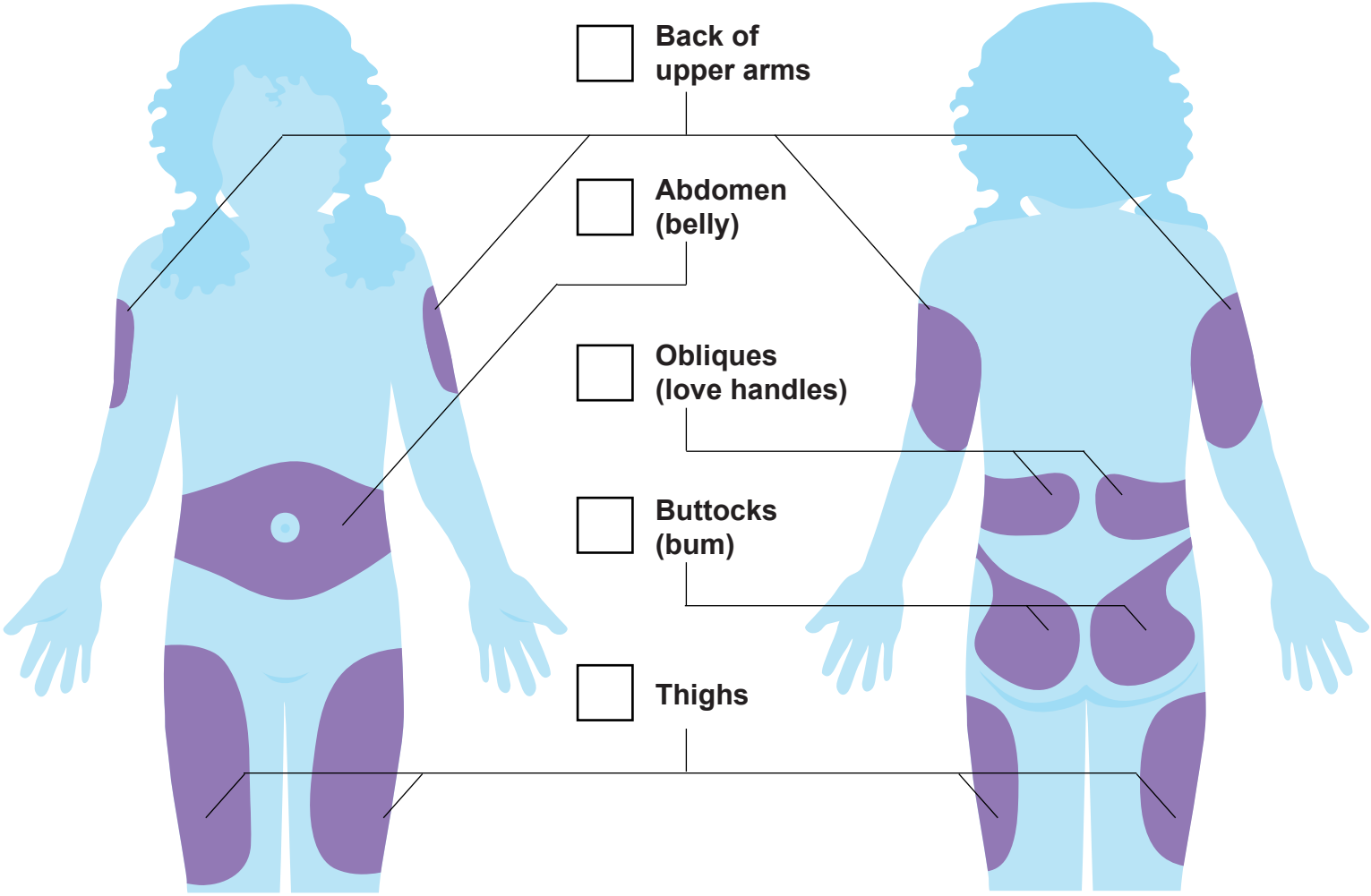
Your nurse will review your insulin dose sheet and explain what this means for you. Keep in mind that for the first week after diagnosis, your dosage may change everyday. For this reason, you will be speaking with your diabetes nurse everyday for the first few weeks. She will be there to guide you and make any changes in your doses.

See pages 35 and 36, *How do I prepare insulin injection with a pen?*

Call your diabetes nurse, or the diabetes doctor on-call, if you:
• Are not sure of what dose to prepare.
• Have any questions or concerns.
Keep your logbook and dose sheet handy when you speak with them.

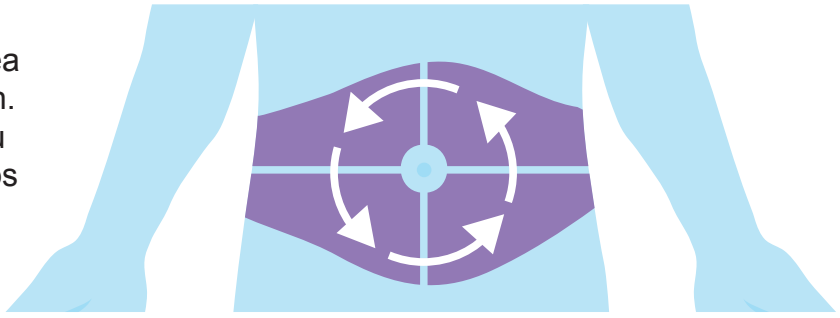
Where do I give insulin injections?

Insulin is injected into areas of the body that have more fat:



Changing where I inject

It is important to regularly change the area where you inject. We call this site rotation. Changing where you inject each time you give an injection prevents abnormal lumps and hardening of the skin, which can affect how insulin works.



Change where you inject each time you give an injection.

What is an insulin pen?

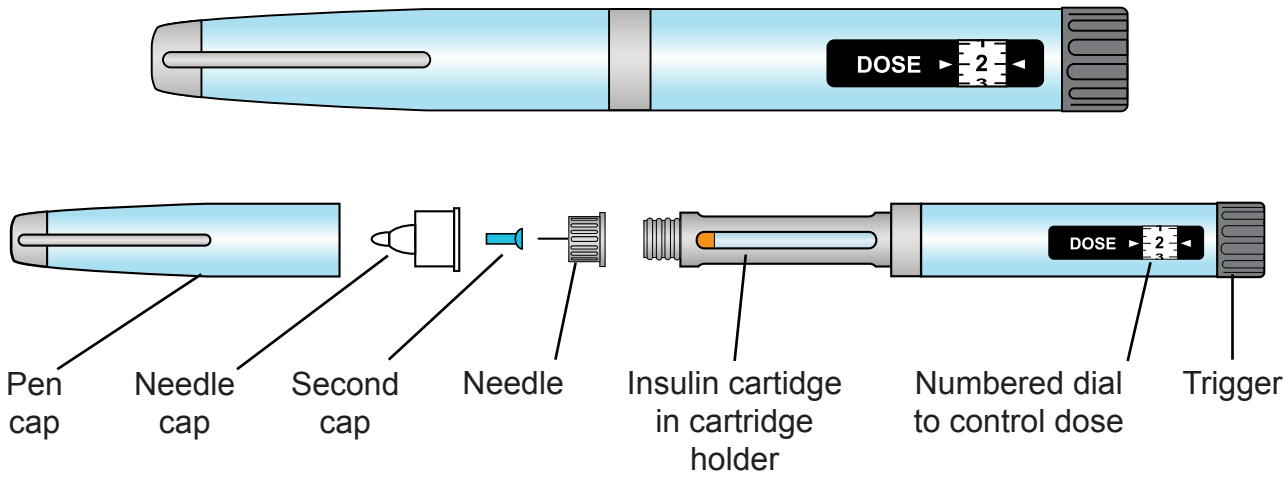
An insulin pen is used to inject insulin. It is made up of:

- a needle
- an insulin cartridge
- a numbered dial that controls the amount of the dose.

Insulin pens are made by many different companies and are normally given for free when you buy insulin cartridges. There are 2 kinds of insulin pens: prefilled pens and durable pens.

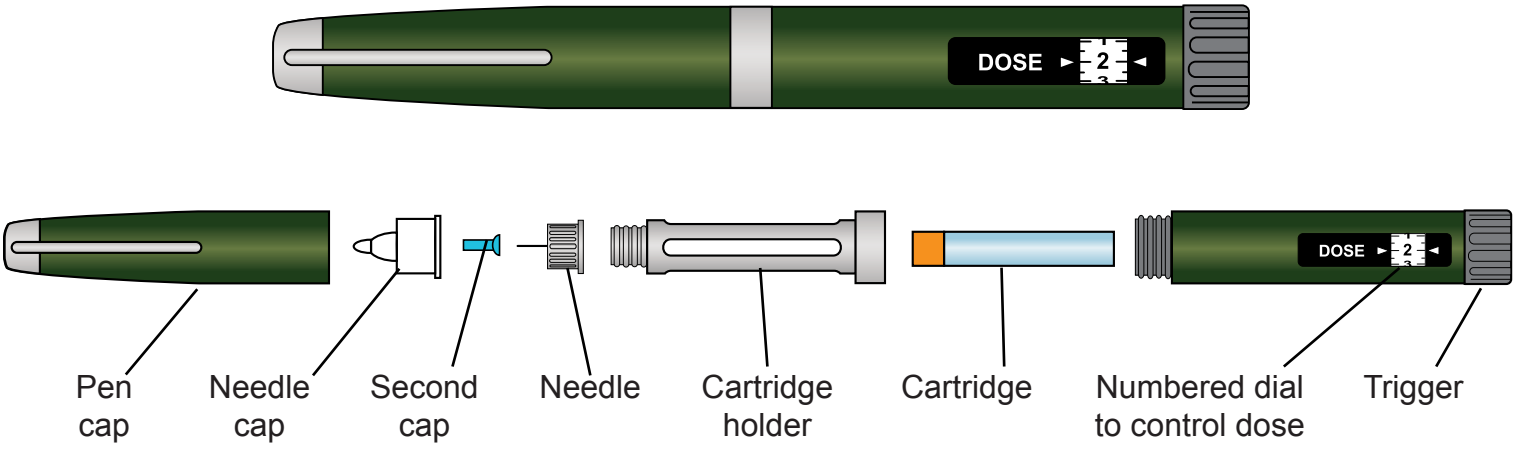
Prefilled pen

A prefilled pen comes with the insulin cartridge already inside. It cannot be refilled and must be thrown away after 1 month of use, even if it still has insulin in it.



Durable pen

A durable pen can be refilled. Once the insulin cartridge is empty, it is thrown away and a new cartridge is loaded into the pen. The insulin cartridge must be thrown away after 1 month of use, even if it still has insulin in it.

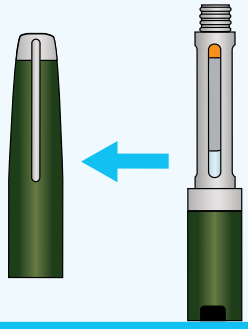


How do I prepare insulin injections with a pen?

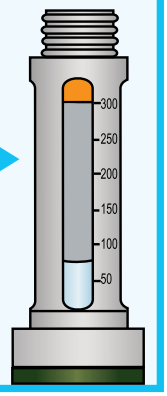
Check your insulin dose

1. Wash hands

2. Remove the pen cap

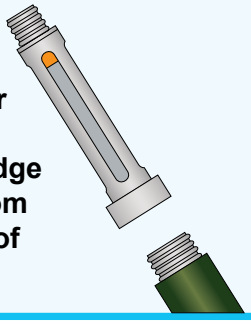


3. Check that there are enough units of insulin left in the cartridge for a dose

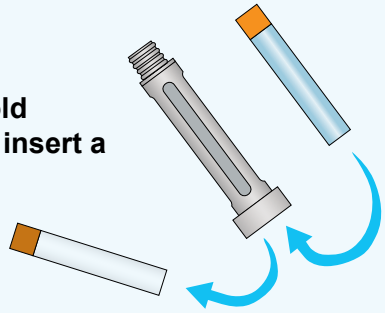


4. To change the cartridge on a durable pen:

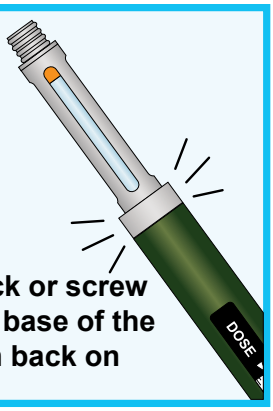
Unclick or unscrew the cartridge holder from the base of the pen



Remove the old cartridge and insert a new one into the holder



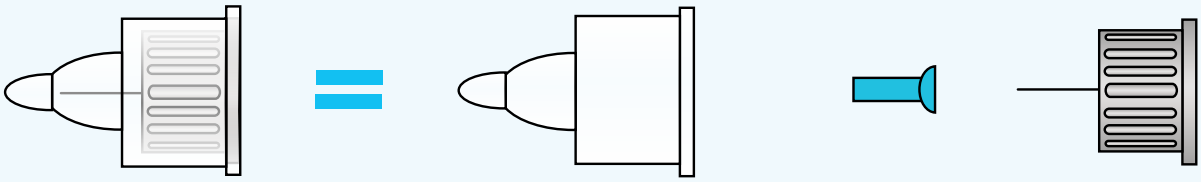
Click or screw the base of the pen back on



Attach your needle

*** The insulin pen needle must be changed before each injection.**

A pen needle is made up of 2 main parts:

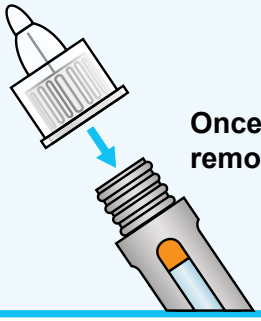


Needle cap | Second cap | Needle

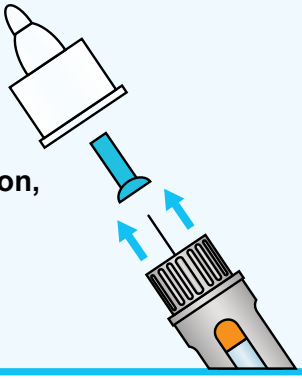
Be sure to keep the needle cap after the injection is done.
You will need it to remove the needle safely.

To attach a needle:

Click or screw the insulin pen needle (cap and needle) onto the loaded cartridge holder.



Once the needle is on, remove the caps



How do I inject with an insulin pen?

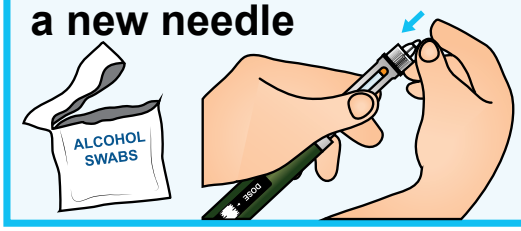
1. Gather your supplies

skin cleanser

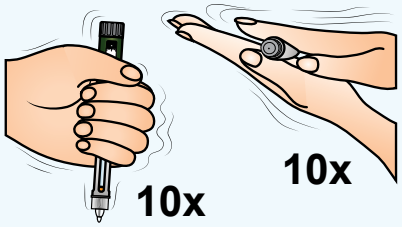
2. Wash hands

Use hand sanitizer or alcohol swabs if you are not near a sink

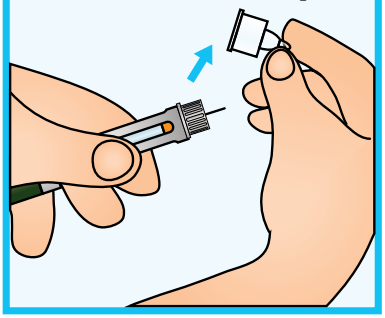
3. Wipe the top of the cartridge with an alcohol swab. Click or screw on a new needle



4. Mix the insulin 10 times as shown

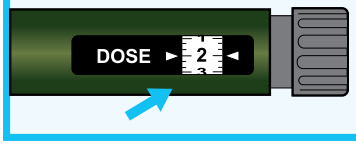


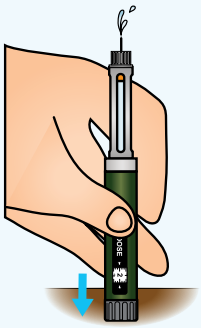
5. Remove caps



6. Check the flow of insulin

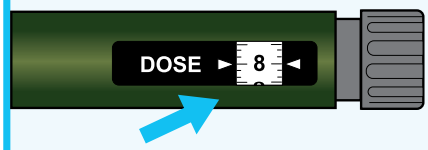
Turn the pen dial to 2



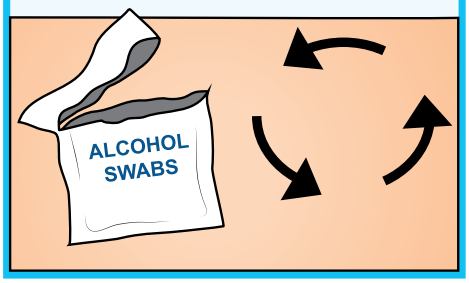


Point the pen and needle upwards and push the end of the pen so that insulin comes out. If no insulin appears, reset dial and repeat.

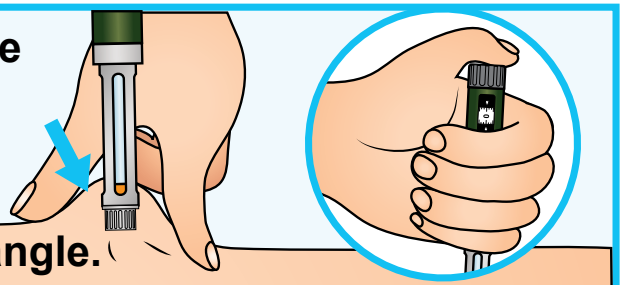
7. Set the dial to your dose



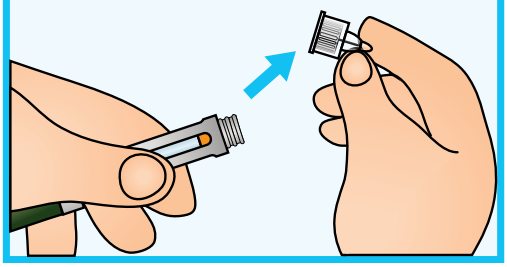
8. Wipe the skin with alcohol and let it dry



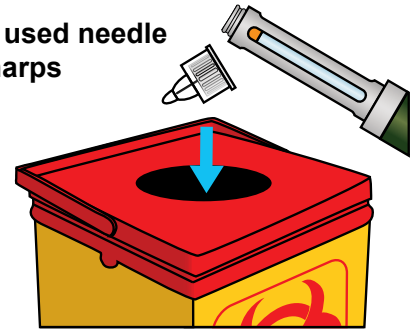
9. Pinch up the skin. Inject the needle into the skin at 90 degree angle. Push the top of the pen to inject the insulin. Hold for 10 seconds to let the dose absorb.



10. Remove the needle



Throw the used needle out in a sharps container.



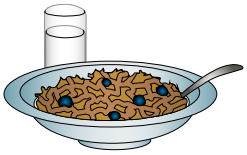
When your sharps container is 3/4 full, bring it back to your pharmacy.

Making diabetes part of my daily routine

Your diabetes nurse will ask you to describe a typical day for your family. By sharing your routine (wake times, bedtimes, meals, snacks, activities), you will work together to make a daily schedule. This schedule will help you take the first step in making diabetes part of your family's life.

Wake-up 7:00 **AM**

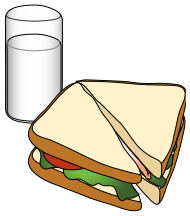
Blood sugar
Insulin
Eat breakfast 7:30 **AM**



School start 8:30 **AM**

Snack at school 10:00 **AM**

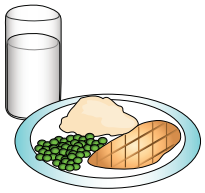
Blood sugar
Insulin
Eat lunch 12:00 **PM**



School ends 3:30 **PM**

Snack 4:00 **PM**

Blood sugar
Insulin
Eat supper 6:00 **PM**



Blood sugar 8:00 **PM**
Insulin
Eat bedtime snack

Bedtime 8:30 **PM**

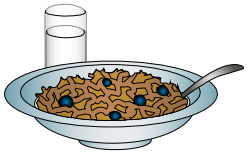
✱ **Do not eat foods that contain carbohydrates for 2 hours before a blood sugar test unless you need to treat low blood sugar.**

Always eat a regular snack if your bedtime blood sugar is over 7.0 (e.g. a glass of milk). If your bedtime blood sugar is 7 or lower, eat your usual snack and add either an extra 250ml milk or 1 slice of bread with peanut butter or cheese.

My daily routine

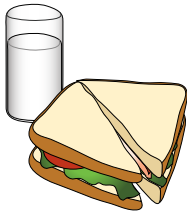
Wake-up _____AM

Blood sugar
Insulin
Eat breakfast _____AM



School start _____AM

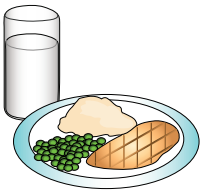
Snack at school _____AM



Blood sugar
Insulin
Eat lunch _____PM

School ends _____PM

Snack _____PM



Blood sugar
Insulin
Eat supper _____PM

Blood sugar _____PM
Insulin
Eat bedtime snack

Bedtime _____PM

✱ **Do not eat foods that contain carbohydrates for 2 hours before a blood sugar test unless you need to treat low blood sugar.**

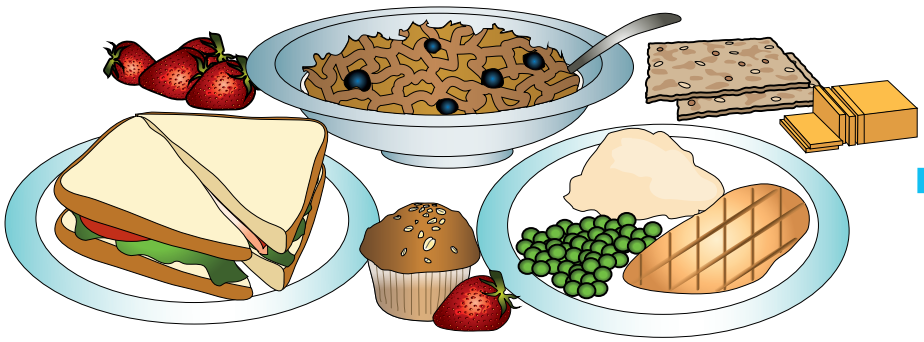
Always eat a regular snack if your bedtime blood sugar is over 7.0 (e.g. a glass of milk). If your bedtime blood sugar is 7 or lower, eat your usual snack and add either an extra 250ml milk or 1 slice of bread with peanut butter or cheese.

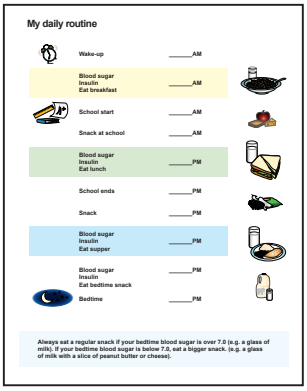
Eating tips

You will meet with the diabetes nutritionist shortly after your child's diagnosis. During this teaching, you will learn important information concerning your child's nutrition and ask any questions you might have. Until then, the following tips will help keep you on track.

Eating:

- Eat 3 meals and 2-3 snacks per day, all containing carbohydrates.
- Eat all meals and snacks at the times set with the nurse on your schedule
- Do NOT restrict food. All foods are okay to eat, even if your blood sugar is high.
- You may eat "junk food" in moderation, like anyone else (e.g. 1-2 halloween size treats).





Drinking:

- Choose mik with meals and snacks.
- Drink water if thirsty especially in between meals and snacks.
- Drink a juice box before physical activity (gym class, sports, swimming etc).
- Limit juice to maximum 125-200 ml per day and try to drink it with meals.

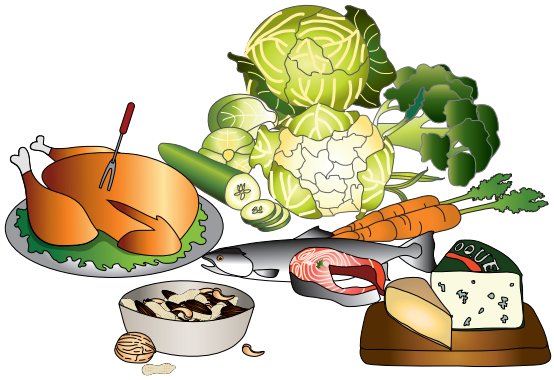
  ✱This does NOT include the juice you drink to treat low blood sugars or for activity.

Avoid drinking soda.

When testing blood sugar:

Do not eat foods that contain carbohydrates for 2 hours before a blood sugar test unless needed to treat a low blood sugar. You may eat foods without carbohydrates during this 2-hour period.

Foods you can eat before a blood test (without carbohydrates)



Vegetables, cheese, meat, eggs, fish, nuts, diet drink and unsweeted almond beverage

Foods to avoid 2 hours before a blood test (with carbohydrates)

Fruits, bread, crackers, cereal, pasta, rice, milk and yogurt

Test your blood sugar before bed. If it is less than 7, eat an extra snack (e.g. 250ml milk or 100g yogurt or 1 slice bread with peanut butter or cheese).

Call the nutritionist if you have questions or concerns:

The nutritionist is available on weekdays
Monday through Friday from 8 AM to 4 PM.
Phone: 514-412-4400, ext. 22348 or 62380
Fax: 514-412-4264
Email: lisa.piperno@muhc.mcgill.ca
maude.lafontainehebert@muhc.mcgill.ca
_____@muhc.mcgill.ca

The pediatric diabetes prescription form

Your diabetes nurse will give you your diabetes medication prescription. This prescription includes everything you will need (e.g. insulin, alcohol wipes, needle, blood test strips, glucose meter etc).

Your prescription is valid for 1 year. This means that when you need more supplies over the year, you just go back to the pharmacy.

The following page is an example of a diabetes medication perscription.

Centre universitaire de santé McGill
McGill University Health Centre

☒ HME MCH ☐ HGM MGH ☐ HRV RVH
☐ HNM MNH ☐ iTM MCI ☐ CL LC

* F M U – 0 5 2 6 *

Prescription de Médicaments
Diabète Pédiatrique
Prescription Form
Pediatric Diabetes

All highlighted text will be discussed with your diabetes nurse.

DATE: _____/_____/_____
AAYY MM JD

Numéro de dossier / Unit Number / Nom du patient / Patient's Name

INSULIN

Humulin N / Novolin NPH (100 units/ml) *insuline / insulin*	____ bout.(s) / vial(s) ____ boîte(s) / box(es) 3.0 mL
Humalog (Lispro) / Novorapid/Apidra (100 units/mL) *insuline/ insulin*	____ bout.(s) / vial(s) ____ boîte(s) / box(es) 3.0 ml
Humulin R / Novolin Toronto (100 units/mL) *insuline / insulin*	____ bout.(s) / vial(s) ____ boîte(s) / box(es) 3.0 ml
Lantus (Glargine) (100 units/mL) Levemir (Detemir) (100 units/mL)	____ bout.(s) / vial(s) ____ boîte(s) / box(es) 3.0 ml
Seringues à insuline: *BD* Insulin syringes: *BD*	____ boîte(s) box(es) 50u / 100units ____ boîte(s) 30 units graduée ½ units box(es) 30 units with ½ mark courte- short / régulière-regular
Tampons alcoolisés / Alcohol swabs	____ boîte(s) / package(s)
Ketostix	____ bouteille(s) / bottle(s)
Trousse d'urgence de Glucagon Glucagon emergency kit Glucagen® Hypokit 1 mg	_____ 1 ou / or 2 OU/OR _____ 1 ou / or 2

Lancettes / Lancets: BD Ultrafine / Softclix / Freestyle Accucheck multiclix / one Touch Delica	_____ **boîte(s)** / box(es)
Stylo(s) à insuline / Insulin Pen(s): *Novolin / Novolin Jr. / Echo* *Luxura / Luxura HD* *Clickstar* *Solostar*	_____ 3.0 mL _____ 21 / 42 unités (units)
Aiguilles pour insuline: Needles for insulin pen: *BD / Novo Fine*	_____ boîte(s) / box(es) 5 mm / 6 mm / 8 mm
Glucomètre / Glucometer *Accu-Check Compact plus / Contour* [2] One Touch Ultra[2] / Precision Xtra / Contour USB/ Aviva /Lite /Nano ***Autre** / Other:*	_____ 1 ou / or 2
Bandelettes pour indicateur de glycémie: Strips for blood glucose meter: *Accu-check Compact plus / Contour* [2] *One Touch Ultra[2] / Precision Xtra / Aviva / Lite* ***Autre / Other:***	_____ boîte(s) / box(es) glucose _____ **boîte(s)** / box(es) **cétones / ketones**
Comprimés(Tablets) de Glucose DEX 4 EMLA Cream Tegaderm transparent dressing Lancet Pen-Device/ auto-piqueur	_____ 10 tabs _____ 50 tabs _____ Patch / 30gr tube _____ _____
Autre / Other :	

Gravol ☐ 15 mg ☐ 25 mg ☐ 50 mg ☐ tab. ☐ supp q 6h or q 8h or prn

Boîte-dépôt d'aiguilles/ Sharp container: ____ boite(s) / box(es)

CETTE PRESCRIPTION EST RENOUVELABLE POUR ____ MOIS / THIS PRESCRIPTION IS RENEWABLE FOR _____ MONTHS.
Aucun substitut sans autorisation médicale / No substitution without medical authorization

_____
Veuillez parapher/ Please initial

A compléter lorsque la prescription doit être télécopiée / To be completed if prescription is faxed

Le médecin doit compléter cette section pour se conformer aux règles émises par le Collège des médecins lors de prescription transmise par télécopieur. To comply with the regulations of the Collège des médecins, this section must be completed by the physician if this prescription is to be faxed.

Pharmacien propriétaire
Owner of the Pharmacy_____

No. Télécopieur
Fax number (____) _____

Date et heure de la télécopie
Fax date and time _____
AAYY/MM/JD 00:00

Le médecin ci-haut mentionné certifie que :	The above mentioned physician certifies that :
1) Cette ordonnance est originale	1) This is the original prescription
2) Le pharmacien identifié précité est le seul destinataire	2) The afore mentioned pharmacist is the only recipient
3) L'original de cette ordonnance ne sera pas réutilisé	3) The original prescription will not be re-used

TRANSMISSION CONFIDENTIELLE PAR TÉLÉCOPIEUR CONFIDENTIAL FAX TRANSMISSION

Ce message contient de l'information privilégiée, confidentielle et ne pouvant être divulguée. Si vous n'êtes pas un destinataire envisagé de ce message ou une personne autorisée à le recevoir, veuillez communiquer avec le soussigné et ensuite détruire ce message ainsi que toutes les copies pouvant exister. This message contains privileged confidential information which is not to be disclosed. If you are not the intended recipient of this message please contact the undersigned and destroy this message as well as all existing copies.

Annexer la confirmation par télécopieur à la copie jaune / Attach Fax confirmation to the yellow copy

Nom du médecin: Name of physician:	**Numéro de permis :** License Number:	**Signature :**

Original-Pharmacie externe / Outside pharmacy **Copie jaune- Dossier médical**/ Medical Record

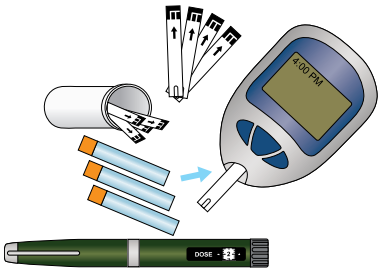
DM-1423 (REV 2011/07/19) *CUSM Repro MUHC* - Approbation P&T 2008/06

School Protocol

What to tell and bring to school or daycare

Organize a meeting with all school personnel who will be responsible for your child (teachers, school principal, secretary, school nurse…). You will need to discuss the following:

1. Lunch time blood sugar and insulin injection



- Verify who will be responsible for doing the blood testing and insulin injection. Or,
- Verify who will be responsible for supervising your child during blood testing and insulin injection.
- Where will it be done?

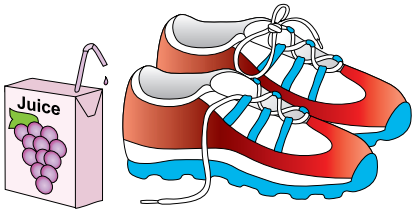
2. Handling an episode of hyperglycemia (high blood sugar)

- There is nothing to do.
- The child may feel thirsty and may need to urinate more often. He should be allowed to have water to drink and to go to the bathroom as needed.

3. Handling an episode of hypoglycemia (low blood sugar)

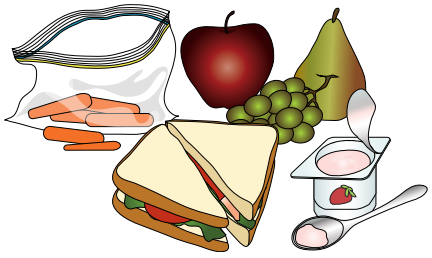
- Follow the Low Blood Sugar (Hypoglycemia) Protocol.

4. Gym class



- The child will need to drink a juice box before gym class.
- Verify who will be responsible for supervising that the juice is taken.

5. Snacks and meals



- Verify who will be responsible for making sure that snacks and meals are eaten.

6. Illness

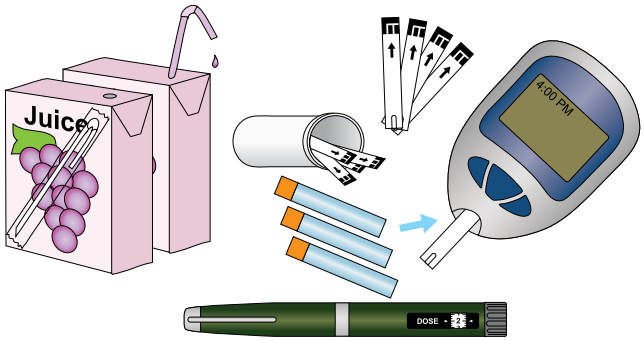
- Contact parents to come pick up the child.

Vomiting (gastro or stomach flu) can become an emergency for a child with diabetes. Contact parents immediately.

7. Supplies

The school should always have the following items:

- Juice boxes
- Blood glucose meter and strips
- Insulin and pen needles, if doing lunch time injections
- Hospital diabetes protocols
- Extra snacks



8. Important Contact Information

Parents:

_____

_____

_____

_____

Questions or concerns?
Do not hesitate to contact the Diabetes Clinic nurses at:
514-412-4400, ext: 22860
(Nancy Dumouchel, Sandra Kambites,
Catherine St-Gelais or Christianne Roy)

Emergency?
Call 514-412-4400, ext: 53333.
Ask for the pediatric diabetes doctor on-call.

Low blood sugar (hypoglycemia) protocol

What is hypoglycemia?

Hypoglycemia is defined as a blood sugar level that is less than 4.0.

What may have caused this?

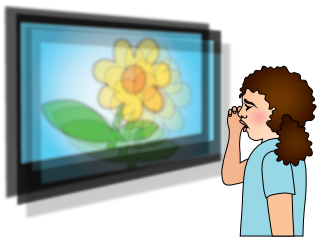
- Missed meal or snack
- Activity or exercise without compensating with an extra snack
- Vomiting
- Insulin dose too strong

What are the signs and symptoms?

An older child might report symptoms. However, this is not necessarily the case for a younger child.

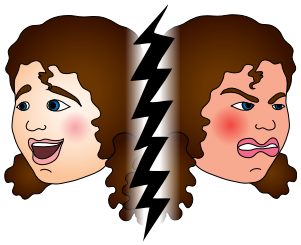
Trembling

Extreme tiredness and paleness



Blurred vision

Dizziness



Mood changes

Sweating

Hunger

Headaches

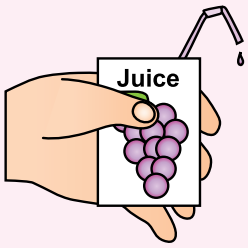
Whenever in doubt, check the blood sugar. If it is not possible to check the child's blood sugar, assume the child has hypoglycemia.

How do I treat hypoglycemia in a conscious child?

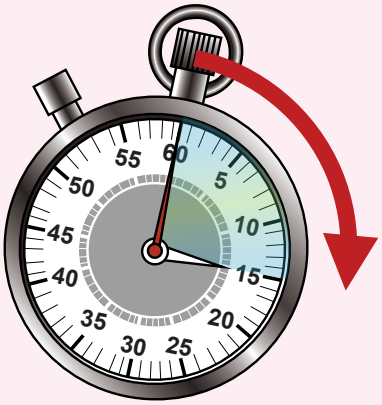
Follow the protocol below, even if the child is showing no signs of low blood sugar. Supervise and make sure that all meals and snacks are eaten fully and on time.

1. Give a fast-acting source of sugar right away:

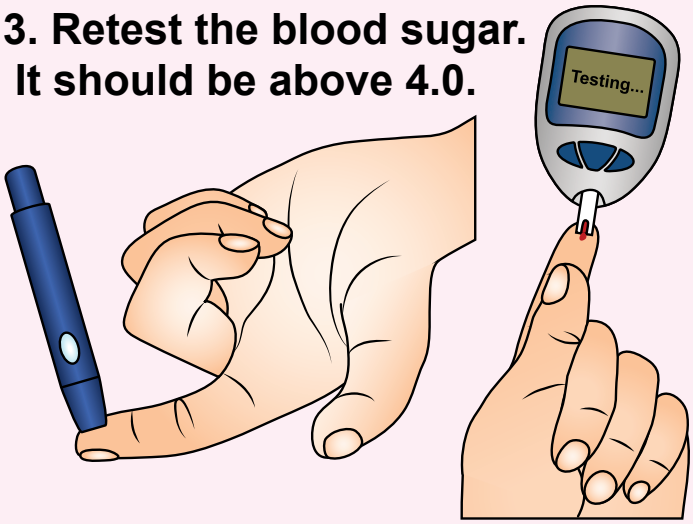
- 200 ml juice box
- 3-5 glucose tablets
- 4 tsp. or 4 packets of sugar mixed in water



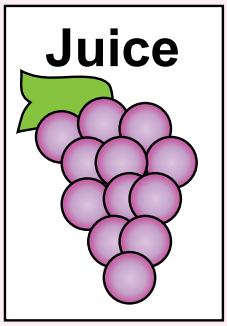
2. Wait 15 minutes. Do not leave the child alone.



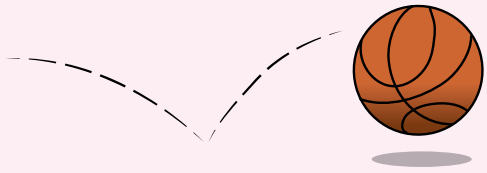
3. Retest the blood sugar. It should be above 4.0.



4. If the child's blood sugar is still below 4.0, repeat steps 1, 2 and 3.



5. When the blood sugar has returned to a level above 4.0, the child may resume his/her activities.

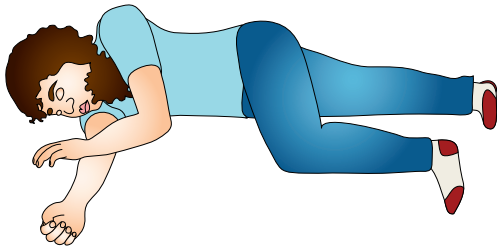


6. If the next meal/snack is more than one hour away, give a snack containing carbohydrate and protein (e.g. granola bar, yogurt, or crackers with cheese).

How do I treat hypoglycemia in an unconscious child?

1. If the child is unconscious, having a seizure, or unable to swallow:

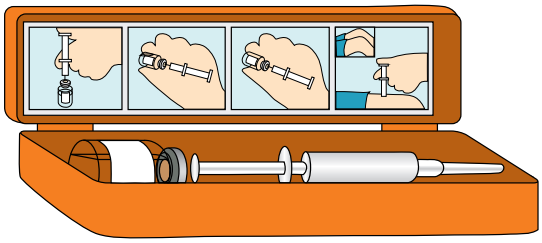
- Roll the child on his/her side
- Keep the child on the side lying-position
- Do not give anything by mouth (risk of choking)



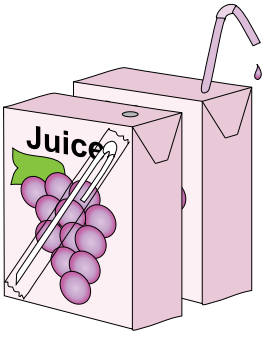
2. Call 911

3. Inject glucagon if provided. Training is required.

Glucagon is a hormone. It has the opposite action of insulin. It will bring up the blood sugar and it is safe to give.



4. Call the parents.



5. When the child has recovered consciousness, offer sips of juice or soda unless vomiting.

Appendix

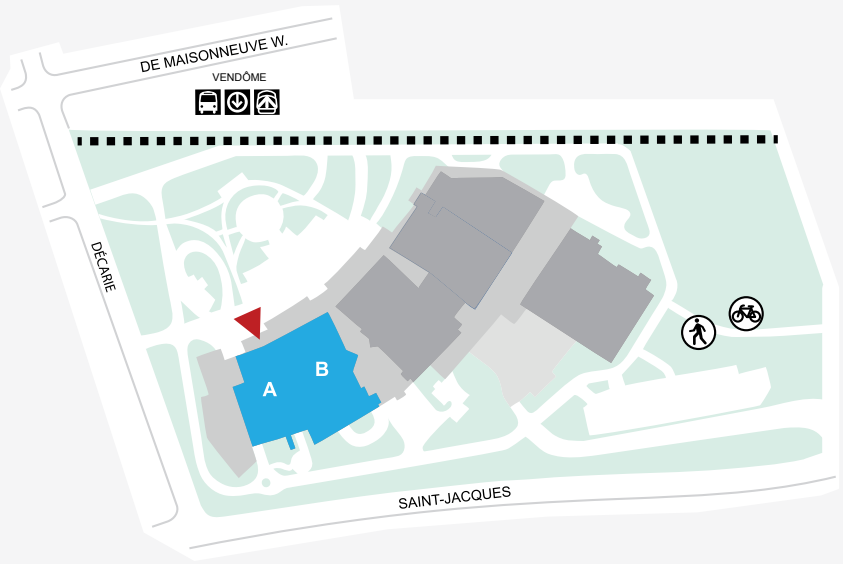
Where to find us

We are located in the A2 South wing of the Montreal Children's Hospital at the MUHC Glen Site.

Montreal Children's Hospital at the MUHC Glen site

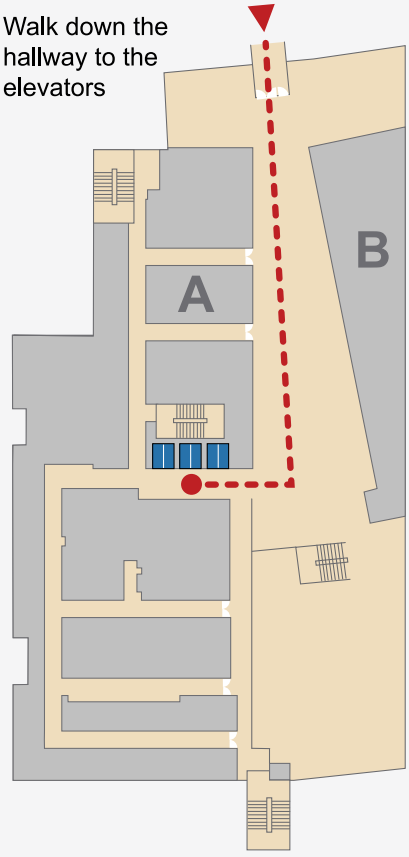
1001 Décarie Blvd.
Montreal, QC H4A 3J1

To get to A2 South:



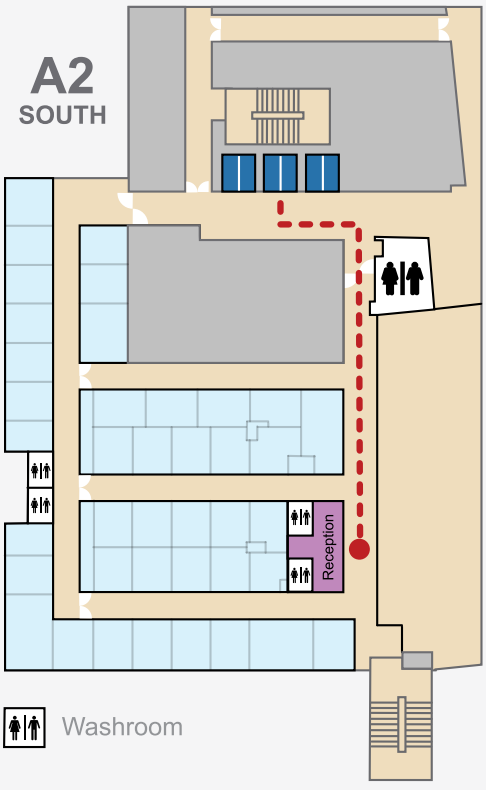
1 Enter through the main entrance of the Montreal Children's Hospital

2 Walk down the hallway to the elevators



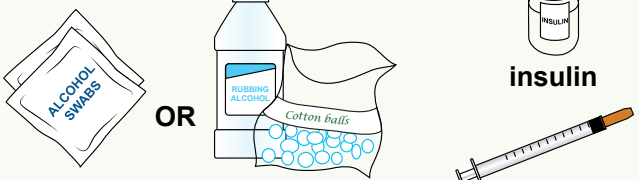
3 Take the elevators to the second floor (A2)

4 Walk to the reception desk of A2 SOUTH



How do I inject with an insulin syringe?

1. Gather your supplies



skin cleanser

insulin

syringe

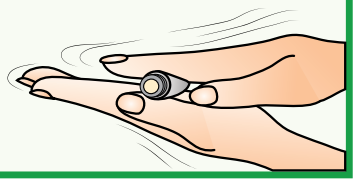
2. Wash hands

Use hand sanitizer or alcohol swabs if you are not near a sink

3. Check the insulin bottle

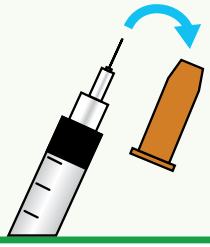
Verify you have the correct type of insulin

4. Gently roll the insulin bottle between the palms of your hands



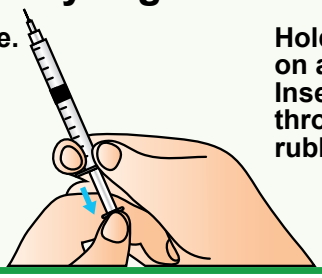
5. Wipe the top of the bottle with an alcohol swab

6. Remove needle cap

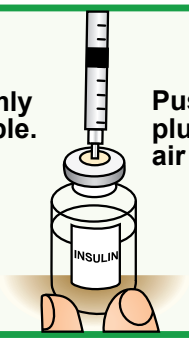


7. Prepare the syringe

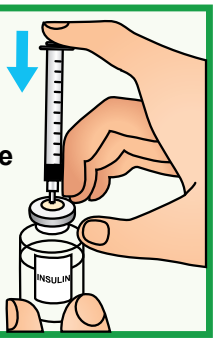
Hold up the syringe. Pull the plunger down to the number of units you need



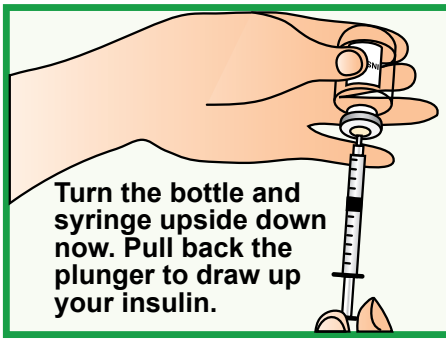
Hold the bottle firmly on a counter or table. Insert the needle through the rubber top.



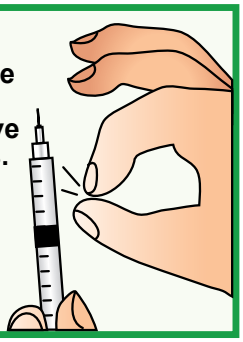
Push down the plunger to force air into the bottle



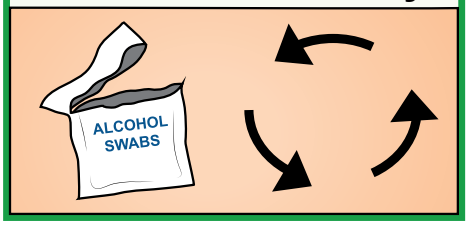
Turn the bottle and syringe upside down now. Pull back the plunger to draw up your insulin.



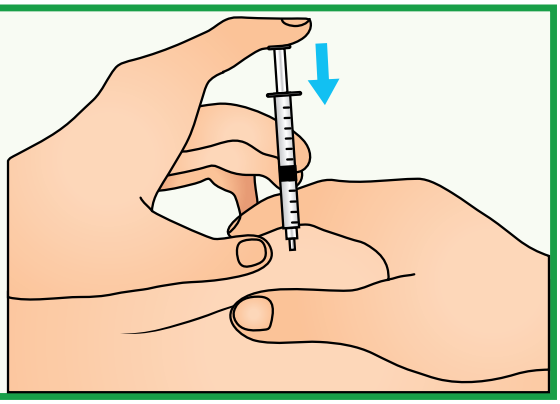
Remove the syringe from the bottle. Flick it lightly to remove any air bubbles.



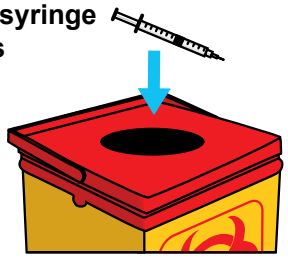
8. Wipe the skin with alcohol and let it dry



9. Pinch up the skin. Inject at a 90 degree angle with your index finger. Leave the needle in for 10 seconds.



Throw the syringe in a sharps container



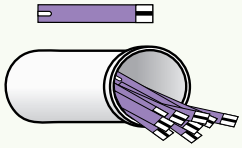
When your sharps container is 3/4 full, bring it to your pharmacy or your CLSC.

How do I test for blood ketones?

A ketone blood test is a more accurate method of measuring ketones.

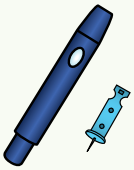
1. Gather your supplies

Ketone meter



Ketone test strips

Hand cleanser



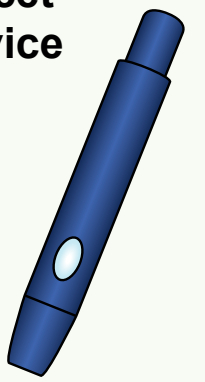
Lancet device and lancet

2. Wash hands (adult and child)

Use hand sanitizer or alcohol swabs if you are not near a sink

3. Insert ketone test strip to turn meter "ON"

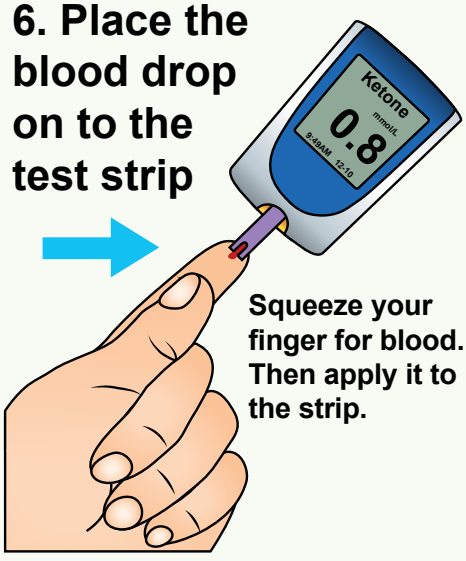
4. Load the lancet device



5. Prick the finger

Place the child's hand palm-up against a hard surface, place the lancet device against the pad of a finger and press the button to release the needle.

6. Place the blood drop on to the test strip



Squeeze your finger for blood. Then apply it to the strip.

7. Making sense of your result

Blood ketone level	Advice
More than 3 mmol/L	This is an emergency. Call the diabetes doctor at: 514-412-4400 extension: 53333. Ask for the pediatric diabetes doctor on call.
Between 1.5-3 mmol/L	The child may be developing DKA*. Call the diabetes doctor at: 514-412-4400 extension: 53333. Ask for the pediatric doctor on call.
Between 0.6-1.5 mmol/L	Retest blood sugar and blood ketones in 2-4 hours.
Less than 0.6 mmol/L	Do nothing. Continue blood sugar testing as usual.

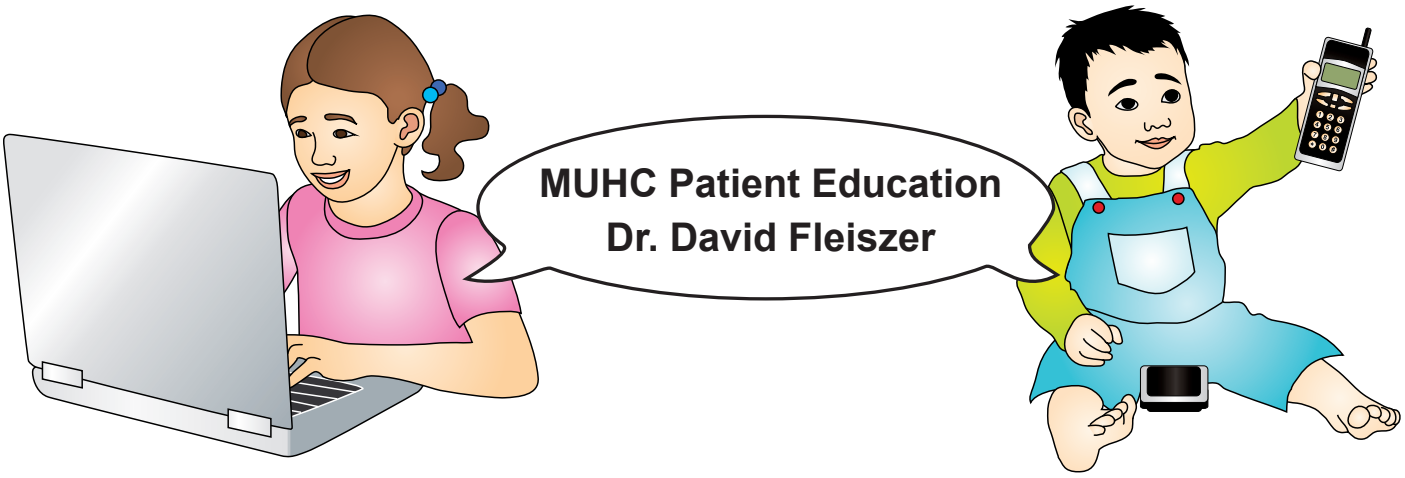
*DKA= Diabetic Ketoacidosis

Help us help others

Help support the MUHC Patient Education Office! Donations make a huge difference.
They help us create health information materials and programs to deliver the best care for life.

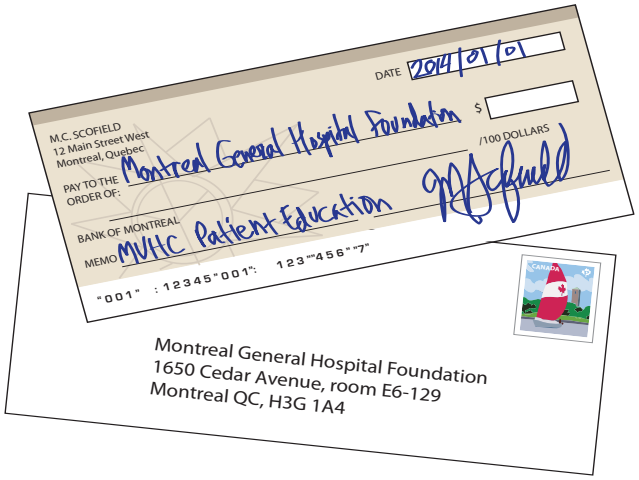
All patient materials are freely available on the internet to MUHC patients,
and to patients and families everywhere.

Make a donation through the Montreal General Hospital Foundation to:



Online: mghfoundation.com

By Phone: 514-934-8230



In Person / By Mail: 1650 Cedar Avenue, room E6-129
Montreal QC, H3G 1A4

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