

changing diabetes® in children

PATIENT EDUCATION MATERIALS

DEVELOPED FOR USE IN THE CHANGING DIABETES® IN CHILDREN PROGRAMME

Name: _____

Surname: _____

Clinic: _____

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WORLD DIABETES FOUNDATION

1 Injecting human insulin



My body does not make insulin, so I need to inject it.

1



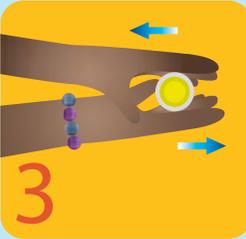
First I wash my hands.

2



Have insulin, syringe, cotton wool and alcohol ready.

3



Roll the vial of insulin 15-20 times between your hands

4



Clean the top of the vial with alcohol

5



Clean the injection site with alcohol

6



Draw air into the syringe

7



Push air into the vial and then draw insulin into the syringe

8



Make sure there is no air in the syringe

9



I pinch my skin and inject the insulin.



10



I don't use the syringe again. I place it in a glass jar and return the full jar to the clinic.

11



Put the vial of insulin back into the refrigerator or other cold place

12



Eat 30 minutes after injecting your insulin

Injecting human insulin

Injecting insulin is something you need to practise, but you will soon become good at it.

These are the steps to follow:

1. Wash your hands
2. Have a syringe, cotton wool and alcohol or other disinfectant ready
3. Roll the insulin vial between your hands
4. Clean the vial with alcohol
5. Clean the injection site with alcohol
6. Draw air into the syringe
7. Draw insulin into the syringe
8. Make sure there is no air in the syringe
9. Inject insulin in the right part of your body (see card number 9)
10. Throw away the syringe
11. Put the insulin back in a cold place
12. Remember to eat 30 minutes after an injection



Find your way through the maze by following the insulin injection steps in the right order



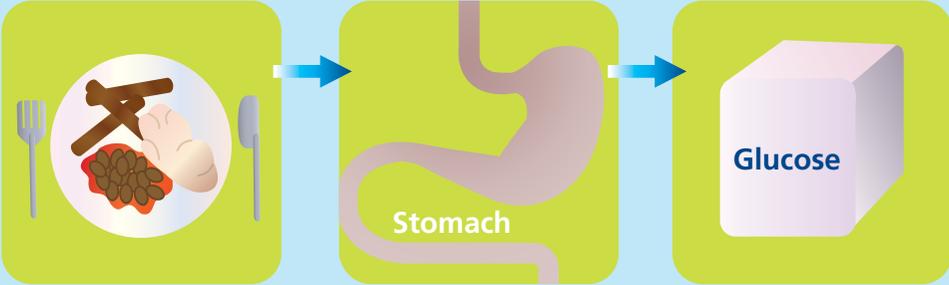
2 Why I need insulin



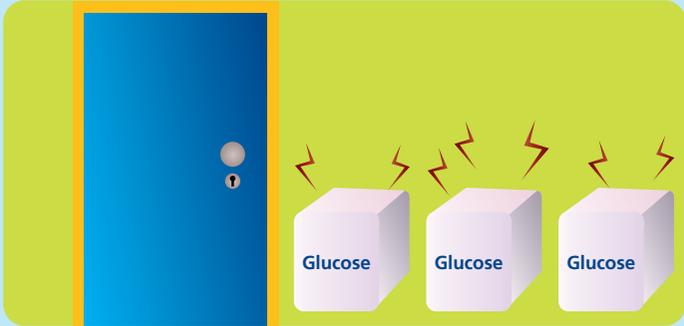
We get energy from the food we eat.



The food we eat is broken down into glucose.

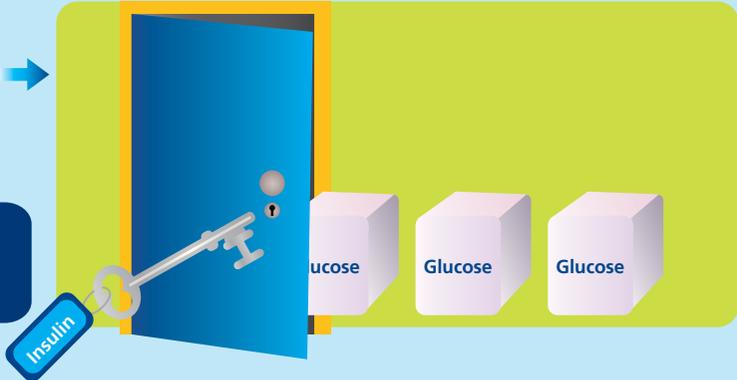


Glucose needs to enter the cells in your body before it can be used as energy.



If the glucose cannot enter the cells, you will get tired.

Insulin opens the doors to the cells in your body, so that glucose can enter the cells and be used.



Why I need insulin

When you eat food, your body turns most of the food you eat into glucose (a kind of sugar).

 Insulin is the key that allows this glucose to enter all the cells of your body and be used as energy.

If you have diabetes, your body doesn't make enough insulin or can't use it properly, so the glucose builds up in your blood instead of moving into the cells. Too much glucose in the blood can lead to serious health problems.

Everybody with type 1 diabetes needs to take insulin to help control their blood sugar levels. The goal of taking insulin is to keep your blood sugar level as normal as possible so you stay healthy.

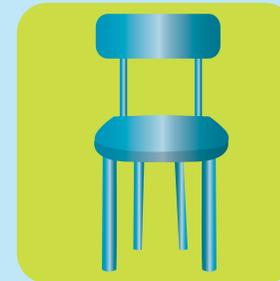


Circle the correct answer

We get energy from:



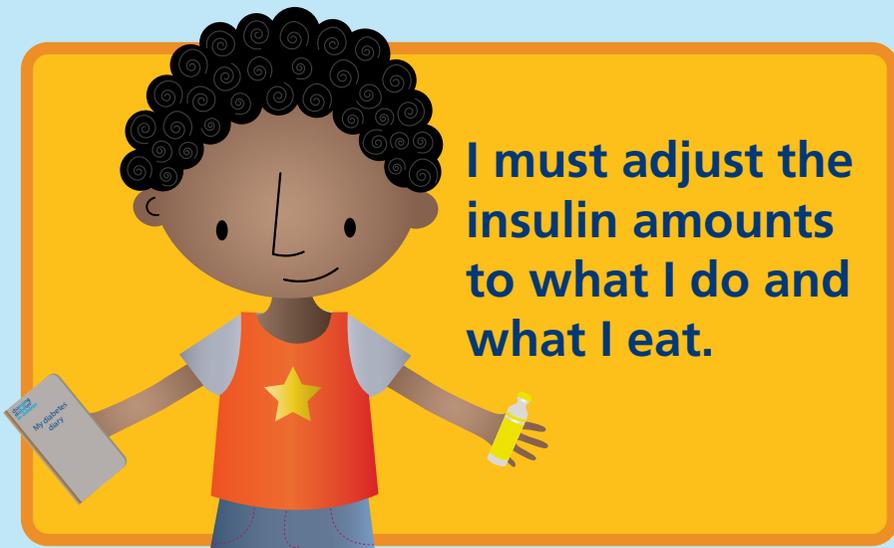
The food we eat is broken down into:



Insulin is like a:



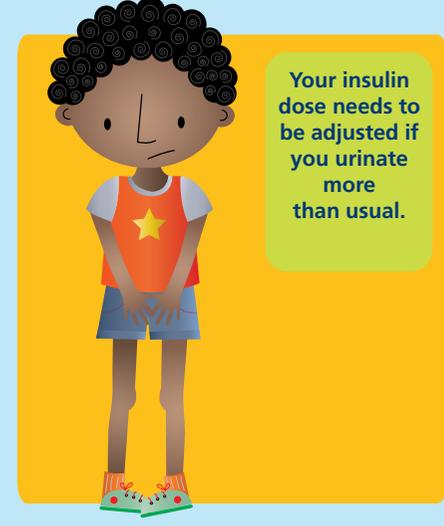
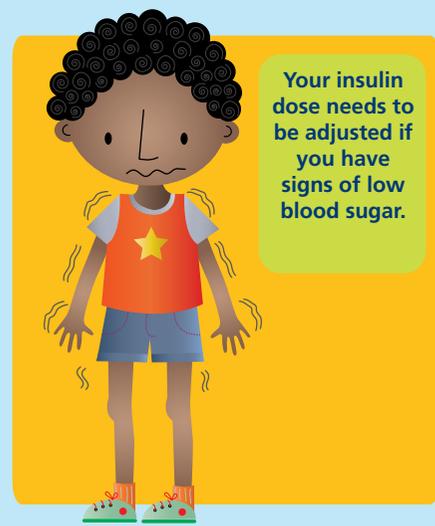
3 How much insulin should I take?



Your doctor or nurse will help you find out how much insulin you should inject each time.



Adjust the dose of insulin according to your activities and how you feel.



Talk to your doctor or nurse about which insulin you need to adjust and by how much.

How much insulin should I take?

Circle the activities that may require you to adjust the insulin amount yourself

You must always follow the doctor and nurse's instructions, but sometimes you will need to adjust the amount of insulin yourself.

Ask your doctor or nurse to teach you when and by how much you need to adjust your insulin.



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4 Low blood sugar (hypoglycaemia) and how to recognise it



If my blood sugar gets very low I can get hypoglycaemia. Most people call it low blood sugar or hypos.



Sweating



Extreme hunger



Itchy lips



Difficulty talking



Irritability



Dizziness



Tiredness



Blurred vision



Crying without reason



Trembling



Sometimes low blood sugar can get very serious and you can lose consciousness or have convulsions.

Low blood sugar (hypoglycaemia) and how to recognise it

Circle the symptoms of low blood sugar

Low blood sugar can be harmful –
if severe even dangerous.

The symptoms are easy to recognise, but
it can still be difficult to know if they are
due to low blood sugar.

Remember: you can always use the
glucometer to measure your blood
sugar level.

When you are sure the symptoms
are caused by low blood sugar,
you should do as it says on
card number 6.

Remember that: people around
a person with low blood sugar
need to **ACT FAST!**



5 Why do I get low blood sugar (hypoglycaemia)?

When you have diabetes and take insulin your blood sugar level can get very low, this is called hypoglycaemia.

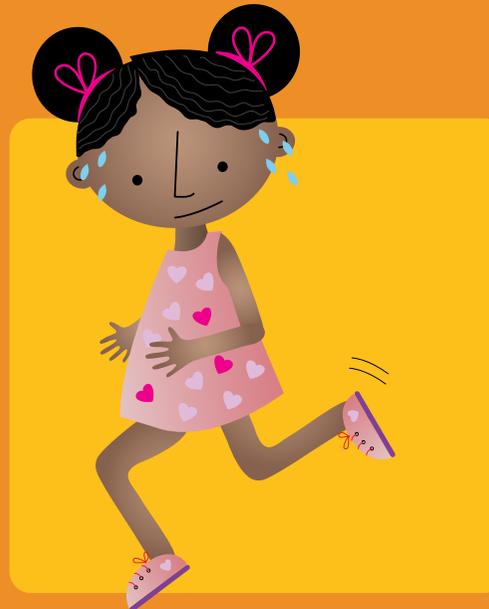
You can get low blood sugar when:



You have taken too much insulin at once.



You have taken an extra insulin injection.



You have been more physically active than usual and have not adjusted your insulin dose.



You have taken your insulin but have not eaten enough, or soon enough or have thrown up.

Why do I get low blood sugar (hypoglycaemia)?

Circle the things that can make
your blood sugar drop

Low blood sugar can happen if:

- You have taken too much insulin at once
- You have taken an extra insulin injection
- You have taken insulin as normal, but afterwards have not eaten enough food, or thrown up
- You have taken insulin as normal but have been more physically active than usual



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6 How to treat low blood sugar (hypoglycaemia)



Low blood sugar can be very dangerous. You, your family and friends must take action quickly.

If your blood sugar is too low:

- 1 STOP all activity**
- 2 MEASURE your blood sugar if possible**

3 If your blood sugar is low you should eat some sugar or drink a sugary drink or juice

If you are feeling better, you should eat something.

If you are not feeling better, you should repeat step 3.

Severe low blood sugar

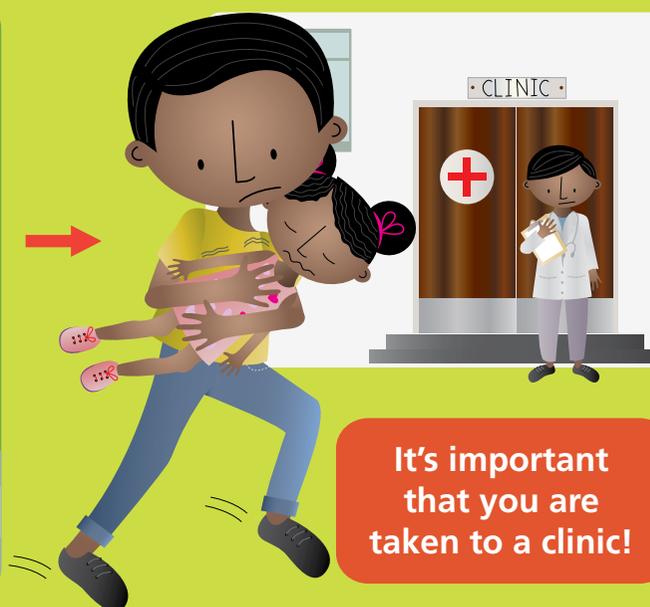
If your blood sugar is very low it can quickly become serious and you can go into a coma.



Your family and friends must act quickly. They should insert a cube of sugar into your mouth. They must NOT give you anything else to eat or drink.



It's important that you are taken to a clinic!



How to treat low blood sugar (hypoglycaemia)

You, your family and friends must act FAST if you have symptoms of hypoglycaemia, or it can be very dangerous.

1. Stop all activity and take a rest
2. Eat some sugar or drink a sugary drink or juice
 - If this makes you feel better, you should have something solid to eat
 - If this doesn't make you feel better, you should have some more sugar and continue to rest
 - Remember to use your glucometer to do a blood glucose test to check for low blood sugar

If your blood sugar is very low you should hurry to contact a doctor or nurse!



Cross out the wrong answers

When you have low blood sugar you should:



To treat low blood sugar you should:



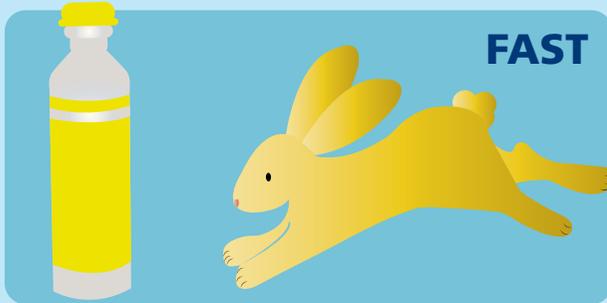
If you have SEVERE low blood sugar you should:



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7 Some of the different types of insulin

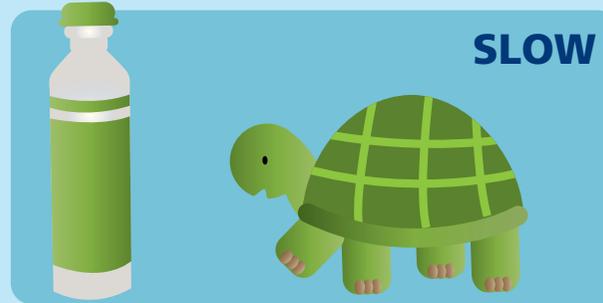
Short Acting Insulin:



Short acting - 30 minutes

Short lasting - up to 8 hours

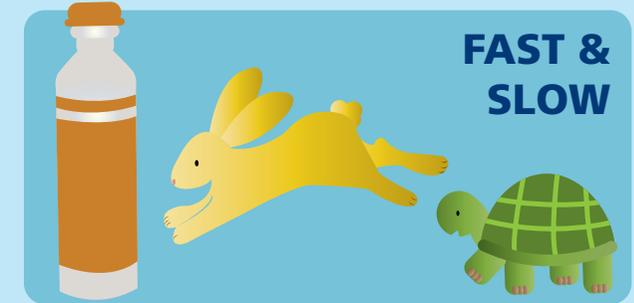
NPH Insulin:



Slow acting - 2 hours

Long lasting - up to 18 hours

Mixed Insulin:



Short acting - 30 minutes

Long lasting - up to 18 hours

You can use a combination of Short Acting Insulin and NPH Insulin

Mixed Insulin

The insulin types depicted here aren't representative of all the types of insulin available.



OR



Some of the different types of insulin

Three of the types of insulin are:

Short acting:

This insulin acts very fast, but only lasts a short time. It will work 30 minutes after injection and last for up to 8 hours.

NPH – slow acting:

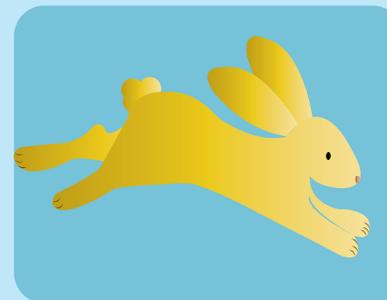
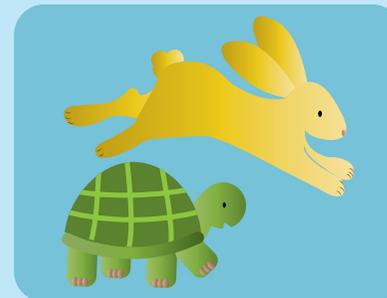
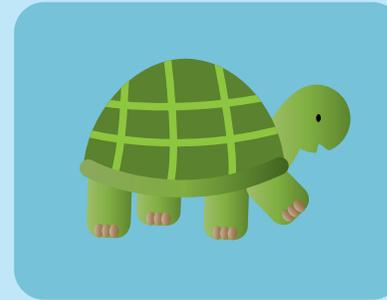
This insulin takes up to 2 hours to work, but will last up to 18 hours.

Mixed:

This insulin is a mix of the fast and the slow. It takes up to 2 hours to work, and will last up to 18 hours.

The insulin types depicted on this poster are not representative of all insulins available.

Connect the animal to the correct insulin vial



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8 How often should I inject insulin?



How often I need to inject insulin depends on which insulin I use.

The doctor or nurse will help you work out how often you need to take insulin.



My insulin injection schedule

Name: _____
Date: _____

Which insulin should I take, when and how much?

In the morning, before breakfast		Before the evening meal		Before going to bed	
Insulin type:	How much:	Insulin type:	How much:	Insulin type:	How much:
					
					
					

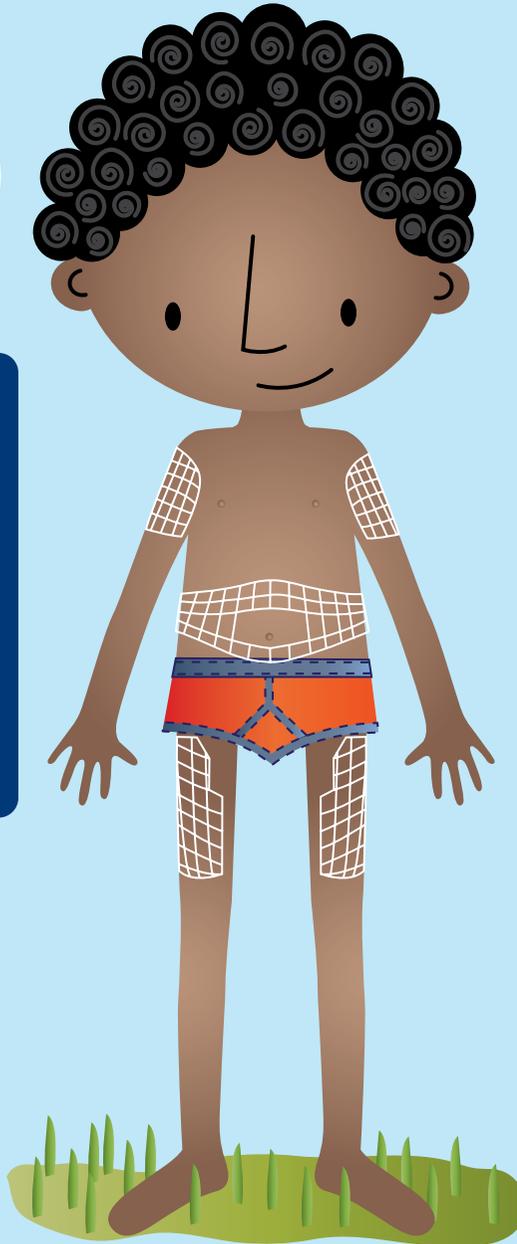
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9 Where should I inject my insulin?

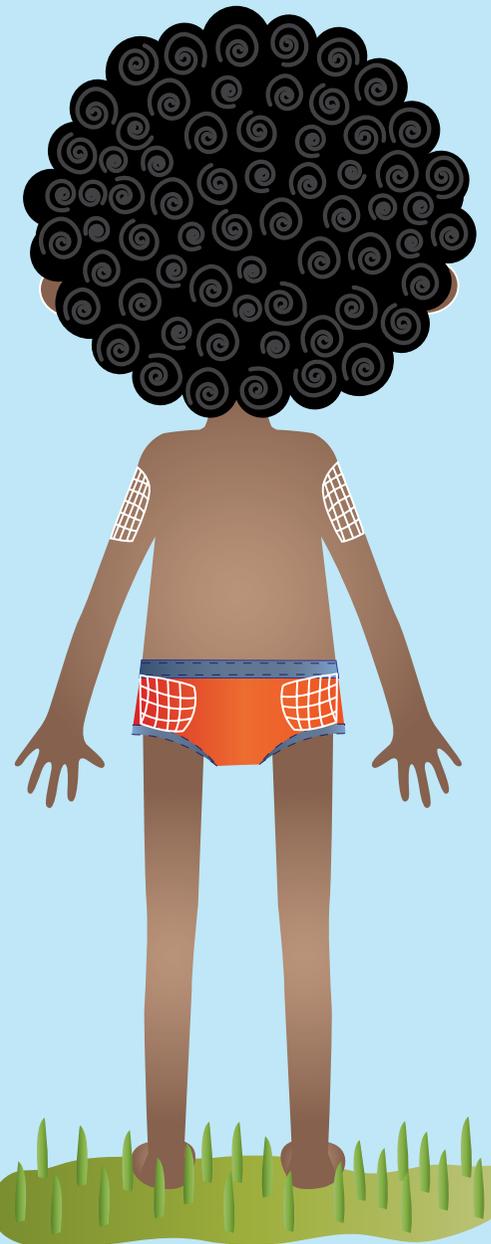
On the front of my body there are three places I can inject my insulin: the top of my thighs, my upper arms and my abdomen.

Ensure that each injection is about 2 finger widths from the one done before.

Avoid injecting too closely to your belly button.



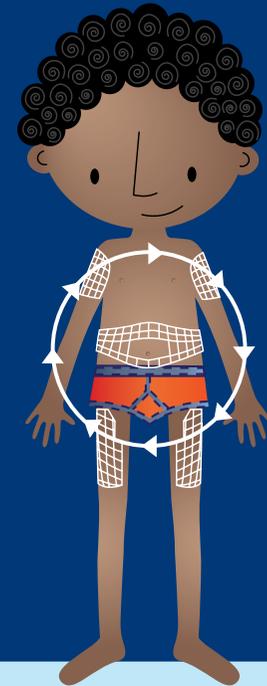
Front



Back

On the back of my body there is one place where I can inject my insulin - the top outer area of my buttocks.

Remember to rotate injection sites.



Where should I inject my insulin?

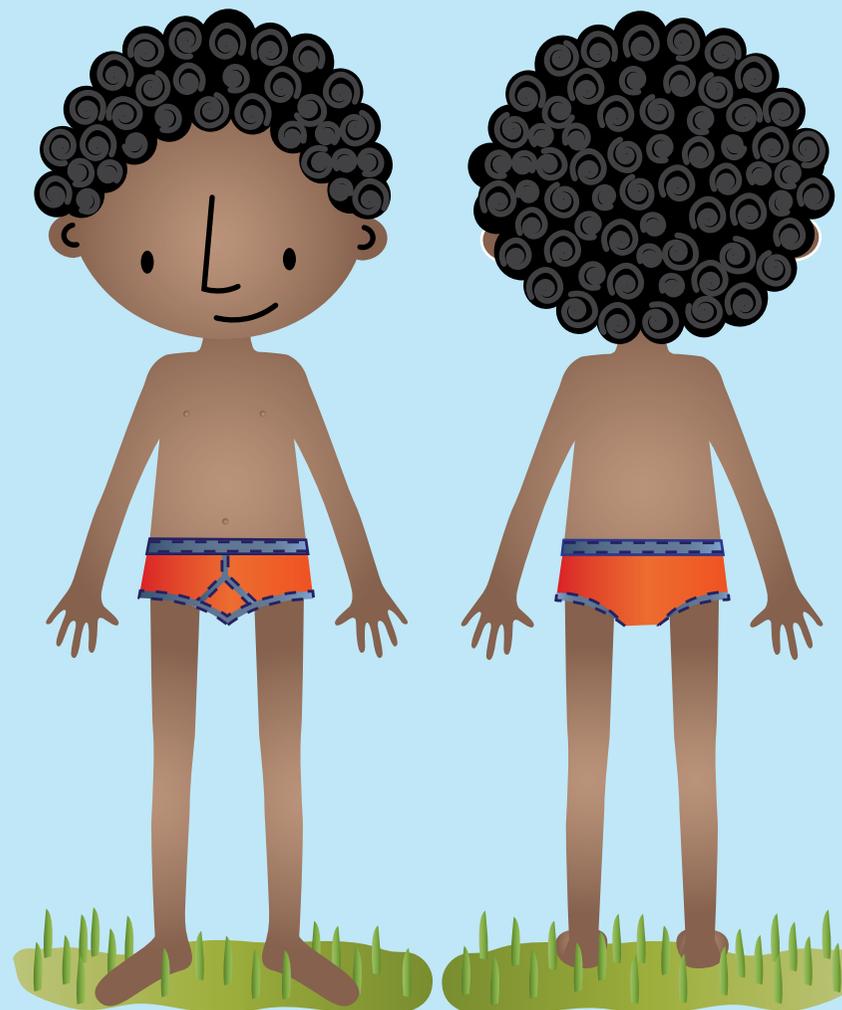
Draw circles around the correct insulin
injection sites

Insulin must be injected into the fatty
layer just under your skin.

There are 4 safe areas for insulin injections:

1. **THIGHS:** Top and outer areas only. Do not use the inner side or back of your thigh.
2. **UPPER ARMS:** Fleshy area on the side and back of your arms. Avoid the muscle in the shoulder.
3. **ABDOMEN:** Right across your abdomen, from just below your ribcage to below the belt line.
4. **BUTTOCKS:** The top outer area.

Remember to do your injections in a different place each time, going in a circle around your body. Injecting in the same place over and over can cause the skin to swell.

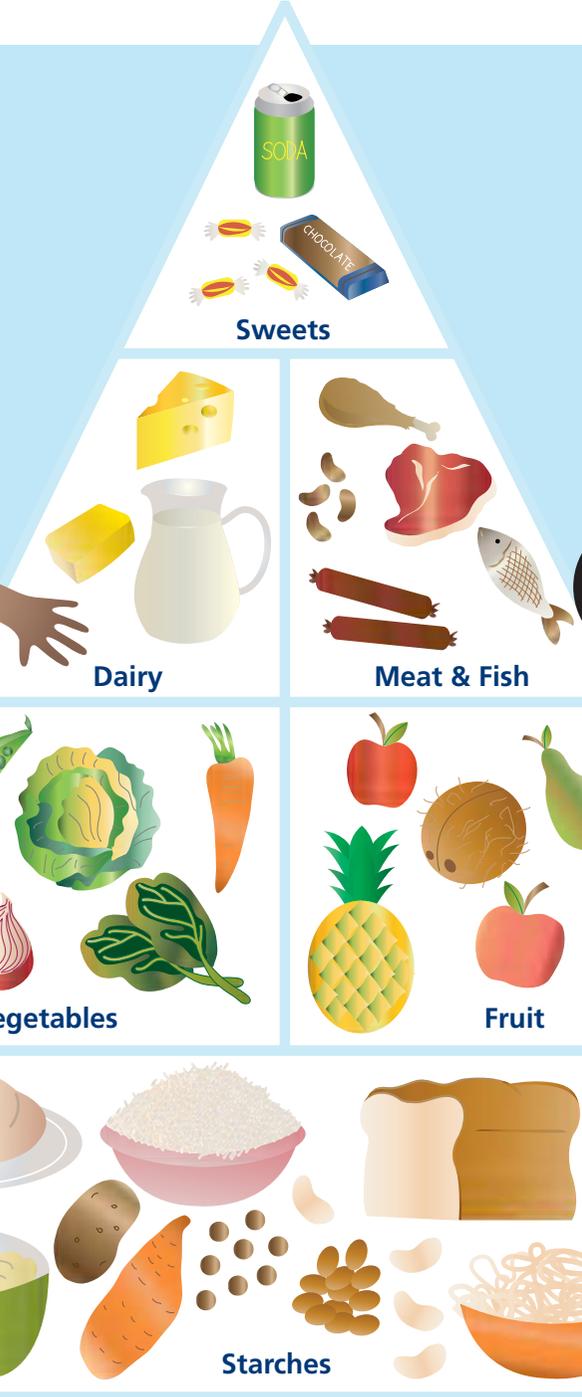


10 What should I eat?

I work with my nurse to make my own food pyramid.



REMEMBER: You should always drink a lot of water.



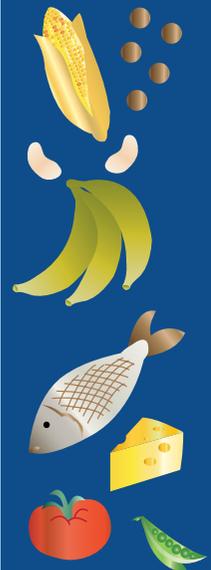
I eat more from the groups at the bottom of the pyramid and avoid foods from the top.



What should I eat?

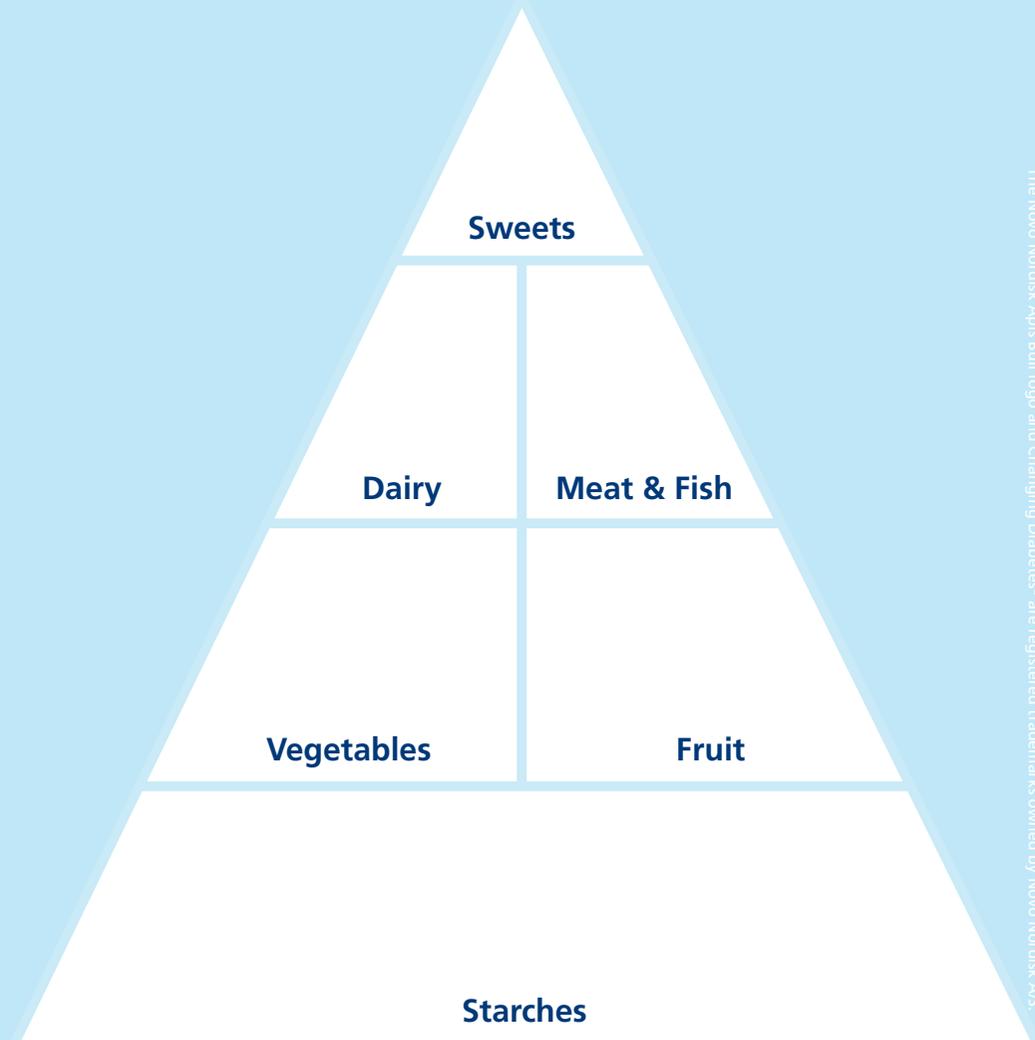


If you have diabetes, what you eat is important, because it affects how well you feel and how the insulin works.



- You and your family can use the food pyramid to find out how to put different foods together
- Eat more from the bottom of the pyramid
- Eat some from the middle of the pyramid
- Eat less from the top of the pyramid

Together with your nurse, draw the types of food you eat in the food pyramid



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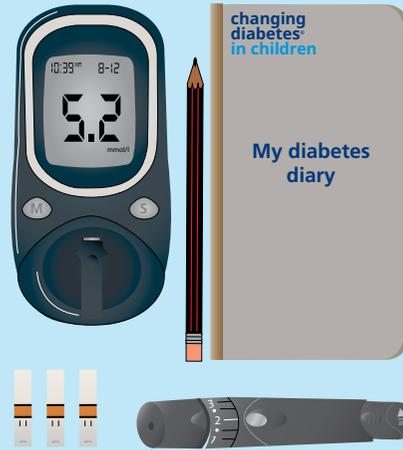
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11 Measuring my blood sugar



You always need to know if you have too much or too little sugar in your blood.




We give you a glucometer, strips, a diabetes diary, lancets and a lancing device.



AT LEAST 4 X

You must use your glucometer at least 4 times a day and write down the number you get.



1

When you wake up, before breakfast.



2

2 hours after you eat breakfast.



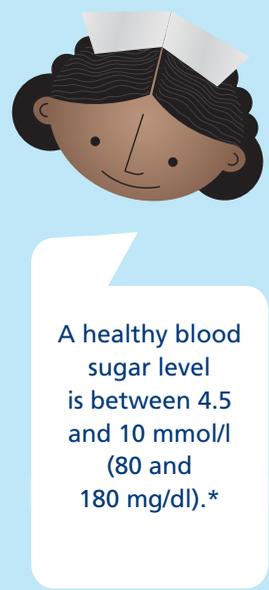
3

In the evening, before you eat dinner.



4

Before you go to sleep.



A healthy blood sugar level is between 4.5 and 10 mmol/l (80 and 180 mg/dl).*



You must always bring your glucometer and diabetes diary when you go to the clinic.



* Post prandial blood glucose - 2011 Global IDF/ISPAD Guideline for Diabetes in Children and Adolescence (http://www.ispad.org/NewsFiles/IDF-ISPAD_Diabetes_in_Childhood_and%20Adolescence_Guidelines_2011.pdf).

Measuring my blood sugar

You need to know if you have too much or too little sugar in your blood.

It is best if you measure your blood sugar 4 times a day, using your testing equipment:

1. When you wake up in the morning
2. 2 hours after eating breakfast
3. In the evening before dinner
4. Before going to sleep

You should write these numbers down every day in your diabetes diary.

Always take your diabetes diary to the clinic.

The number will be higher after meals or if you have been angry or even sick. It will be lower after physical exercise.

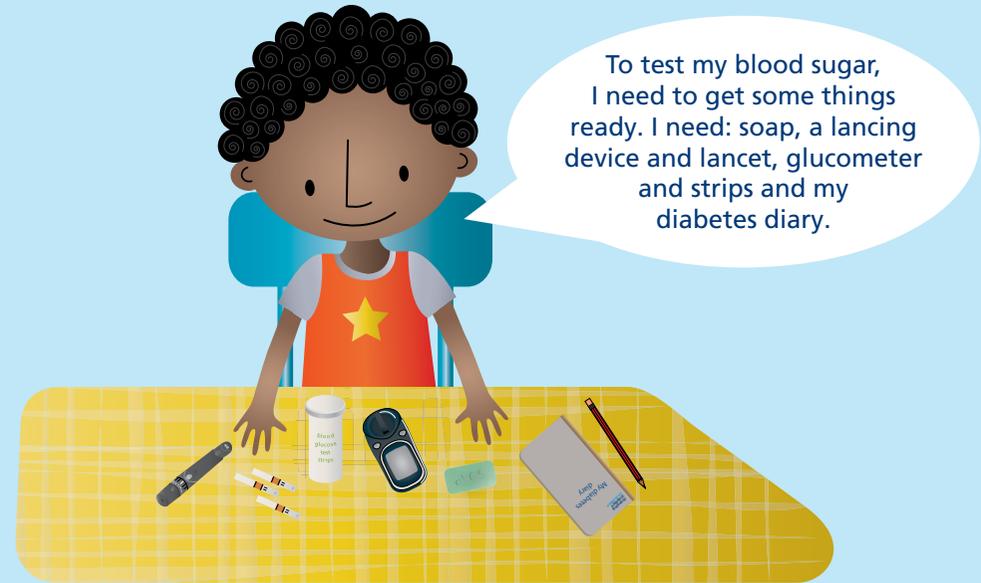
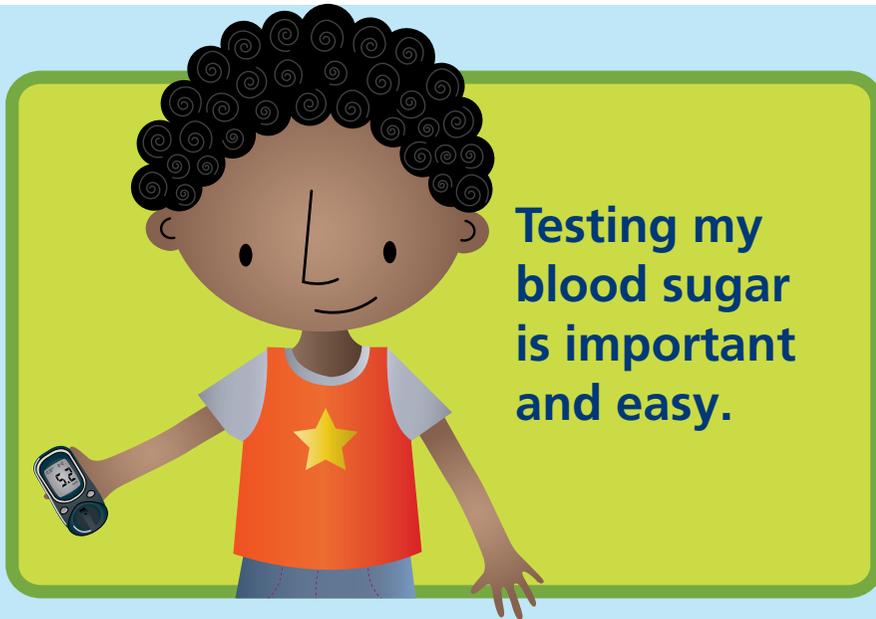
Keeping track of your blood sugar will help you feel good.

Circle the items you need to keep track of your blood sugar



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12 How to use my glucometer?



Wash your hands with soap



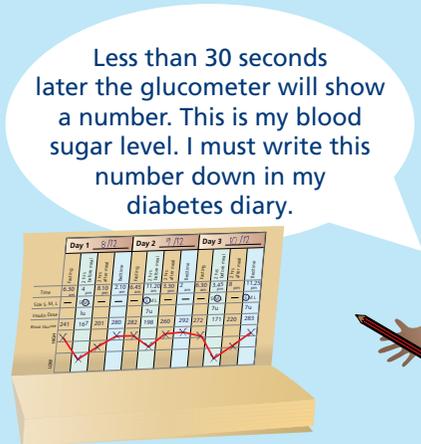
Insert the strip into the glucometer



Prick your finger with the lancet



Put a small drop of blood on the strip



How to use my glucometer?

Before testing your blood sugar, you need to get these things ready:

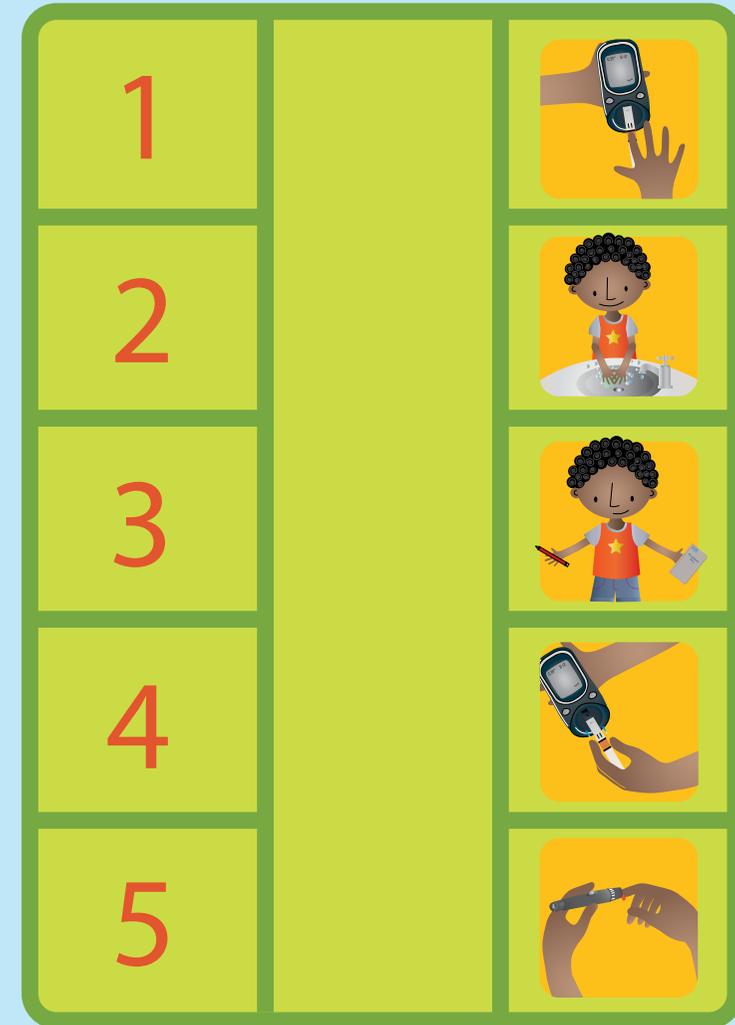
- Soap
- Lancing device and lancet
- Strip
- Glucometer

To do the test, follow these steps:

1. Wash your hands
2. Turn on the glucometer and insert a strip
3. Prick your finger with the lancet
4. Put a small drop of blood on the strip
5. Wait and read the number on the glucometer
6. Write the number in your diabetes diary



Connect the steps for testing your blood sugar from start to finish



13 High blood sugar (hyperglycaemia) and how to recognise it



If my blood sugar gets too high, I can get hyperglycaemia.

You probably have hyperglycaemia if you:



are very thirsty all the time



need to urinate a lot



have blurry vision



are very tired all the time



Check your blood glucose level to confirm high blood sugar (hyperglycaemia).



have a dry mouth

If it is a serious case of high blood sugar you might also experience:

 <p>nausea</p>	 <p>stomach pains</p>
 <p>abnormal breathing</p>	 <p>breath that smells like alcohol</p>
 <p>loss of consciousness</p>	 <p>If you have any of these signs - you should go to the clinic!</p>

High blood sugar (hyperglycaemia) and how to recognise it

High blood sugar or hyperglycaemia happens when the body has too little insulin or when the body can't use insulin properly, leaving too much sugar in the blood?

Blood sugar that is too high can be a serious problem if you don't treat it, so it's important to begin treatment as soon as you as soon as you discover it.

Part of controlling your diabetes is checking your blood glucose often.

Checking your blood and then treating high blood glucose early will help you avoid problems caused by hyperglycaemia.

If you have any of these symptoms, go and see a doctor quickly:

- Shortness of breath
- Breath that smells like alcohol
- Nausea and vomiting
- Very dry mouth

Remember to tell the doctor or nurse that you have type 1 diabetes and that your blood sugar is very high.

Circle the symptoms of a severe case of high blood sugar



Nausea



Very thirsty all the time



Very tired all the time



Breath smells like alcohol



Stomach pains



Abnormal breathing

14 Why do I get high blood sugar (hyperglycaemia)?

When you have diabetes your blood sugar level can get too high, this is called hyperglycaemia.



You can get high blood sugar when:



You have taken too little insulin or missed an injection.



You have taken insulin that was bad because it was too old or not stored correctly.



You have eaten too much food.

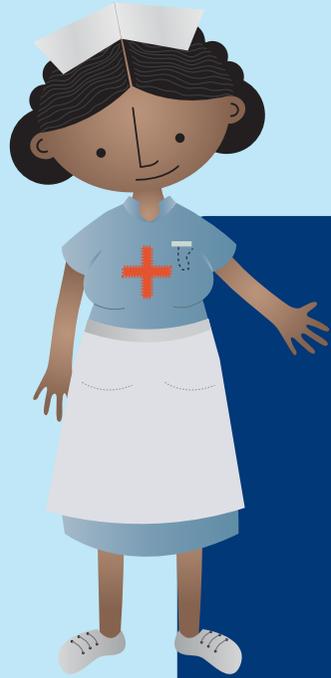


You have been less physically active than usual.



You have an infection or fever.

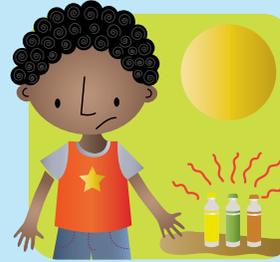
Why do I get high blood sugar (hyperglycaemia)?



You can get high blood sugar when you:

- Have taken too little insulin or missed an injection
- Have been less physically active than normal
- Have eaten too much food
- Have taken insulin that was bad because it was too old or not stored properly
- Have an infection, a fever or perhaps a foot sore

Circle the pictures of things that can cause high blood sugar



You have taken insulin that was bad, because it was too old or not stored correctly



You have eaten too much food



You have taken too much insulin at once



You have been more physically active than usual



You have been less physically active than usual



You have taken too little insulin or missed an injection



You have not eaten



You have an infection or fever



You have taken an extra insulin injection

15 How to treat high blood sugar (hyperglycaemia)

Most cases of high blood sugar are easily treated.



To treat high blood sugar you should:



1 Measure your blood glucose



2 Take short acting insulin



3 Measure your blood glucose again after 2 hours

HIGH BLOOD SUGAR

If my blood glucose is between 11 and 22 mmol (200 and 400mg/dl)

Contact your doctor or nurse if you are not sure of what to do.



Ask your doctor or nurse how much extra insulin you should take.



I must take extra insulin.

You must measure your blood sugar after 2 hours.



If your blood sugar is still high:

1. repeat the extra dose
2. contact your doctor or nurse



REMEMBER: You should always drink a lot of water.

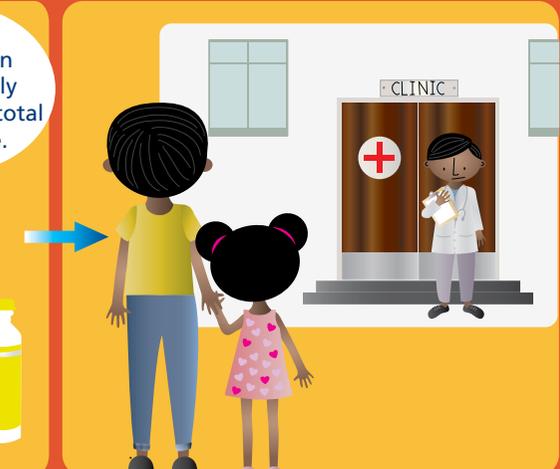
SEVERE BLOOD SUGAR

If your blood glucose is more than 22 mmol (400mg/dl)

You should contact the clinic quickly!



I must take insulin immediately - 10% of my total daily dose.



How to treat high blood sugar (hyperglycaemia)

In most cases it is easy to treat high blood sugar (hyperglycaemia):

1. Measure your blood glucose
2. Take insulin
3. Measure your blood glucose again,
4. 2 hours later

When you measure the second time, your number should have gone down.

If not, you must inject again.

If your blood sugar is very high (more than 22mmol), you must see a doctor or nurse quickly. You need their help to treat a serious case of high blood sugar. It can't be treated at home.



Circle the right answers

If you get high blood sugar, you should:

Measure your blood glucose



Wash your feet



If the high blood sugar is severe you should:

Go to school



See a doctor or a nurse quickly!

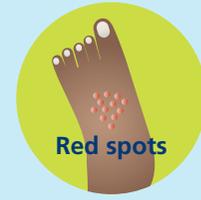
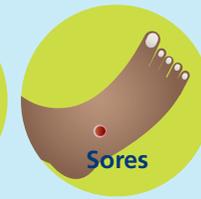


16 Taking care of my feet

It is important to take care of my feet - not doing so can lead to complications.



Check your feet for: cuts, sores, red spots, swelling and infected toenails.



Wash your feet everyday



Dry your feet properly



Put lotion on your feet



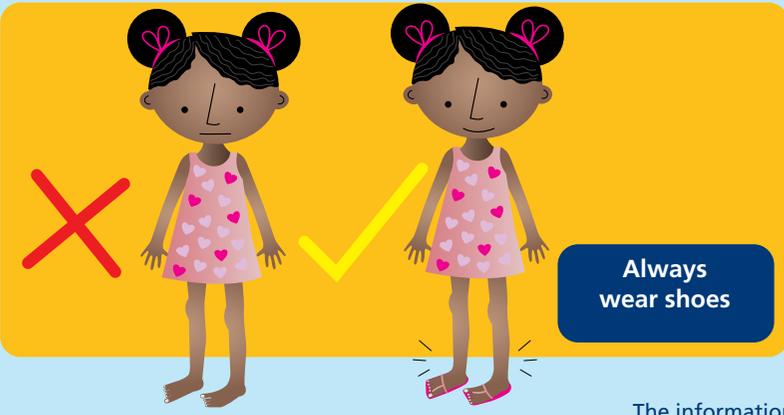
Keep your nails short and clean



Put your feet up to rest



Be active



Taking care of my feet

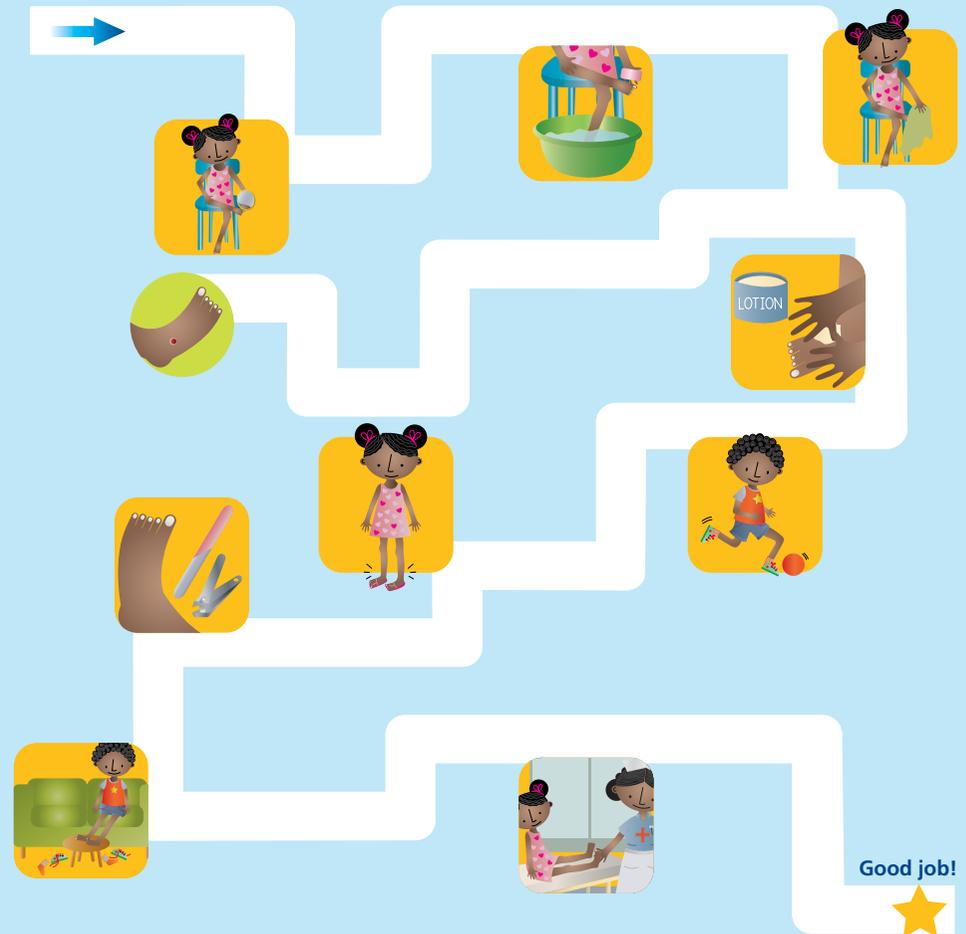
If you have diabetes you must take extra care of your feet. If not, your feet can become damaged and you could lose a toe, a foot or even a leg. Taking good care of your feet can stop this from happening.

You should:

- Check your feet every day for cuts, sores, red spots, swelling and infected toe nails
- Wash your feet every day, dry them well and apply lotion
- Keep your toe nails short and clean
- Put your feet up to rest
- Always wear your shoes but make sure they do not hurt your feet and give you cuts or blisters
- Be active
- Ask your nurse or doctor to check your feet when you are at the clinic



Make your way through the maze to get to the healthy feet and to stay away from the sore feet! Make sure you pass all the good things to do for your feet on the way.



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17 Living with diabetes



Even with diabetes, I can still take part in all normal activities.



Reduce your insulin if you will be more active than usual.



Reduce your insulin if you will be walking long distances.



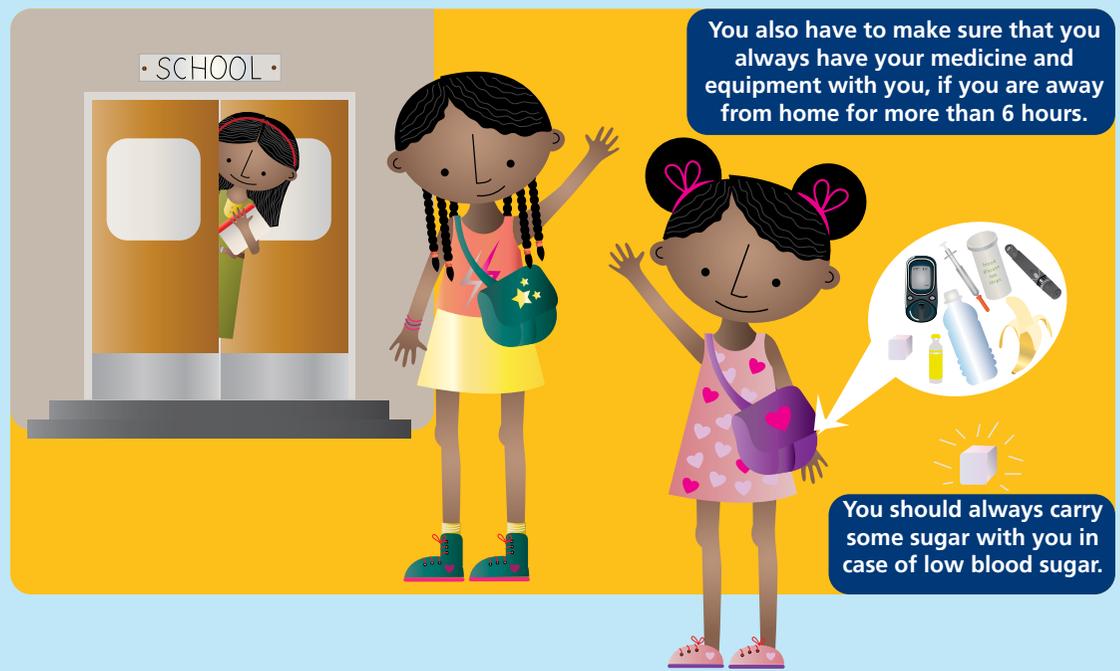
Reduce your insulin if you eat less food or no food.



Increase your insulin if you will be eating more than usual.



Activities are not always planned, and if you are more physically active than normal, without planning for it, you should eat foods or drink liquids that are rich in sugar.



You also have to make sure that you always have your medicine and equipment with you, if you are away from home for more than 6 hours.



You should always carry some sugar with you in case of low blood sugar.

People with diabetes can take part in all normal activities. But you have to adjust the amount of insulin you take, to what you will be doing.



- If you will be more physically active, you should **reduce** the amount of insulin you take in the morning.



- If you will be travelling or walking long distances, you should also **reduce** the amount of insulin you take.



- If you will be skipping a meal, you should **reduce** the amount of insulin you take.



- If you will be eating more than usual, you should **increase** the amount of insulin you take.
- If you are more physically active but have not adjusted the amount of insulin you take, you should **eat foods or drink liquids that are high in sugar.**
- If you are away from home for more than 6 hours, make sure you **always bring your medicines, needles and glucose meter, and some food and water.**

Draw an arrow pointing up or down, to show how you should adjust the amount of insulin you take in different situations

