Diabetes made simple
Hello, we’re the Check-it Crew – Will, Abby and Max. We all have diabetes, just like you.

We’re going on an exciting journey to help you find out what happens inside your body when you have diabetes, and show you how we keep our diabetes in check.
Abby
Age 8, type 1 diabetes

Max
Age 6, type 1 diabetes

Will
Age 10, type 1 diabetes
The food we eat is used to make energy, which our body needs to work properly. This energy is made in our cells, which are the building blocks of our bodies.

There are millions and millions of cells in our body, so small that you cannot see them with your eyes.

So how does the food we eat get into our cells to make energy?
The Cell

Nucleus

Energy Factory
When we eat food, it gets mixed around in the stomach, a bit like clothes in a washing machine! This breaks down the food into sugar.

The sugar is then moved into the blood where it is taken around the body to the cells where it is needed.
Stomach
You have a caretaker to look after you at school, and your body has one too – insulin!

This special substance is needed to help move the sugar around.

The insulin works like a school caretaker, opening the doors to the cells that need the sugar.

When there is lots of sugar in the blood, more insulin is made to open the doors of more cells to make energy, or to open the store room cells in the liver.
Abby knows insulin is made in a special part of the body called the pancreas.

She knows the pancreas hides just behind the stomach and does lots of other jobs as well as making insulin.

When Abby’s pancreas doesn’t make enough insulin, the sugar stays in the blood and does not go into the cells.

We call this diabetes, and this is what you, Abby, Will and Max all have.
Nobody knows what causes diabetes, not even Abby, who is super smart! However, she knows some things...

You cannot catch diabetes from anyone, like you can a cold.

It is not caused by eating too many sweets, and it is not because you were naughty or did something wrong.

But, once you have got diabetes, it will not go away.
Having diabetes means that your blood contains more and more sugar because the insulin isn’t there to move it into the cells.

Without sugar, the cells cannot make energy so they become tired and sick. In turn, you may become tired too.

The sugar in your blood also makes you feel thirsty and want to go to the toilet a lot, like Max. You might also feel hungry, sick, or just not very well, like Will.
We can’t make your diabetes go away, but we can replace the insulin that your pancreas doesn’t make so that you feel well again.

To do this you take your insulin medicine every day, either by having small injections, like Abby, or by using an insulin pump, like Will.

Your nurse will teach you and your parents how to take your insulin.
Abby has insulin injections

Will uses an insulin pump
Abby uses a special pen for her injections.

These injections aren’t like the ones you may get at school or in the hospital.

The special pen has a teeny tiny needle that you can hardly see. You use the pen to do the injecting.
It is very important that you have all of the injections of insulin that the doctor or nurse has said you should have.

It is also important that your insulin is injected in different places. Doing it too often in one place will mean that the insulin will not work properly and you may get sick.

Abby injects herself in her legs, tummy, buttocks and thighs.
Abby injects herself in a different place each time
Will is starting to use an insulin pump, which is a small machine that stays on him and gives him very small amounts of insulin throughout the day.

By pressing some buttons, he can tell the pump to give him more insulin when he is eating or his blood sugar is high.

Not all children use an insulin pump like Will does, but you and your parents can talk to someone from your diabetes care team if you would like further information on any treatment for diabetes.
To make sure you are having enough insulin, it is important to check how much sugar is in your blood. This is called ‘blood sugar monitoring’.

These blood sugar results will tell you and your doctor and nurse if you need to change the amount or type of insulin that you are getting. So these tests are very important.
Blood sugar monitoring involves getting a small amount of blood, usually from your finger using a special pen, and checking it with a machine called a blood sugar meter.

A small drop of blood is put onto a strip of card and the meter can tell you exactly how much sugar is in your blood!

You should do this at least five times a day, like Will.
When your blood sugar drops too low this is called a ‘hypo’.

This can happen very quickly, usually when you have been running around or not eaten enough food. Sometimes it may also be because you are taking more insulin than you need.

It is important to tell an adult when you think you are having a hypo, as they can help stop it getting any worse.

When you go out, you should keep something on you that tells people that you have diabetes, like a card or bracelet. This is so they could help you if you ever got into trouble.
When Abby has a hypo she feels shaky and hot. You might also feel dizzy and hungry, and a little bit ‘funny’.

Abby always makes sure to tell an adult when she thinks she is having a hypo. They can help her to check her blood sugar levels.

To stop a hypo, Abby knows she needs to eat or drink something sugary, such as a few special sugar tablets or some fruit juice.

When Abby feels better she tests her blood sugar again to make sure it is back to normal.
Hypos can happen at any time, so regular testing of your blood sugar is very important.

If you are going to be running around a lot, then you may need something extra to eat or drink that will give you enough sugar to stop it dropping too low.

You should always carry some sugary things with you too, just in case you have a hypo when you are not at home.
Will always has a sugary snack or some fruit juice before he plays basketball.
Abby knows it’s important to eat a range of tasty, healthy foods – including carbohydrates (such as brown bread, pasta, rice and potatoes) and proteins (such as meat, fish, eggs, cheese and nuts) plus plenty of fruit and vegetables.

A food expert called a dietitian will teach you all about food and how it affects your diabetes. They can teach you how to ‘count carbohydrates’, which are found in most foods and raise your blood sugar level.

Learning to count carbohydrates will help you work out how much insulin to inject to keep your blood sugar levels steady when you are eating.
When can I eat this?
Sometimes testing your blood sugar will show that it may be higher than normal. You should always tell an adult as they might want to talk to your doctor or nurse about it.

High blood sugar levels can happen for all sorts of reasons. It may be that you are not getting enough insulin or that you’ve eaten a bit too much food! It can also happen if you are upset or scared about something or if you are ill.

You will have different blood sugar targets for different times of the day that you will be trying to hit. Hitting your targets as often as you can keeps you healthy and feeling good.
Uh oh!
When you are not feeling well, it is important to check your blood sugars. You should never stop your insulin injections – even if you do not feel like eating anything.

You should also check your blood for special things called ketones. These are found when the body does not have enough insulin to move the sugar into the cells to make energy.

The cells try to make their own sugar and energy to stop you feeling tired and unwell. The bits of rubbish left over are called ketones.
I’ll be back soon!
The longer this goes on for, the sicker you may feel.

If you start to feel like this you should talk to your diabetes nurse or doctor as you might have to go to hospital for a little while to get better.
Because diabetes does not go away, it is important to try and have ‘good’ blood sugars whenever you can. This will help to keep you healthy.

Visiting your diabetes team at the hospital is very important as they can answer all your questions and make sure that you are keeping your body nice and healthy.
Sometimes you will not want to have diabetes and get very angry or upset about it. This is normal and nothing to worry about. If you are feeling upset about it, you can always talk to anyone in your diabetes team.

We hope Will, Abby and Max have helped you understand that diabetes should not stop you from doing anything that you want to do – it just means you may think about it a little more carefully first.

However, you can do anything that your friends can do and it does not make you any different to them.
This information was developed by Novo Nordisk, a global healthcare company with more than 90 years of innovation and leadership in diabetes care. This heritage has given us experience and capabilities that also enable us to help people defeat other serious chronic conditions: haemophilia, growth disorders and obesity.

Headquartered in Denmark, Novo Nordisk employs approximately 40,300 people in 75 countries and markets its products in more than 180 countries.

For more information about Novo Nordisk, please visit www.novonordisk.co.uk

Other materials from the *With you all the way* campaign can be accessed via www.with-you-all-the-way.co.uk

Changing Diabetes® is a global commitment by Novo Nordisk for improving conditions for the millions of people who live with diabetes around the world today, and for those who are at risk of developing diabetes tomorrow.

This information is not designed to replace the advice of a healthcare professional. Please consult your healthcare professional if you have any questions or concerns about your child’s diabetes.
REPORTING OF SIDE EFFECTS

If your child experiences any side effects, talk to your doctor, pharmacist or nurse.

This includes any possible side effects not listed in the packaging leaflet. You can also report side effects directly via the Yellow Card Scheme at www.mhra.gov.uk/yellowcard

By reporting side effects you can help provide more information on the safety of this medicine.
Written by Claire Pesterfield
Lead Paediatric Diabetes Specialist Nurse at Cambridge University Hospitals NHS Foundation Trust.

This book introduces young children to diabetes in an amusing and friendly way, with a bunch of lively characters called the Check-it Crew.

It is a guide to what happens to your body if you have diabetes, with fun illustrations for children to look at, learn from and talk about, and simple text to enable older children to read the book for themselves.

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