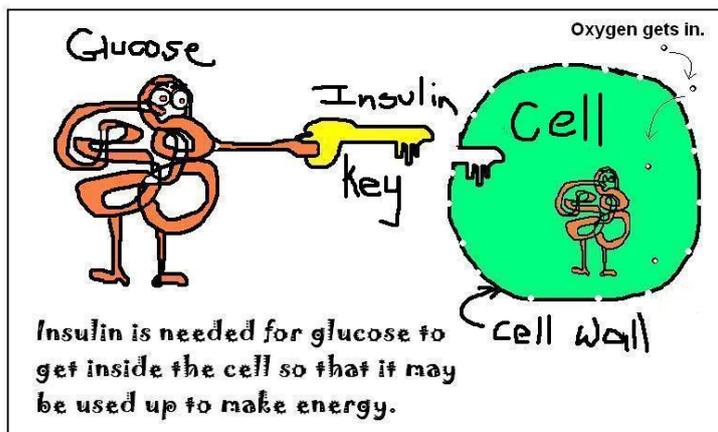


Eating well with Diabetes

Children and Young People with Type 2 Diabetes

*Initial Lifestyle Advice and Medical
Management on metformin*

What is Diabetes?



- Diabetes is a condition in which the body is unable to control the glucose (sugar) in the blood.
- Glucose gets into the blood from the breakdown of carbohydrate foods in the diet.
- Glucose is also stored and released from the liver.
- Everybody has glucose in their blood, but in diabetes, the glucose level goes higher than the normal range of 4-7mmol/L.
- Insulin (a hormone made in the pancreas), is needed to allow glucose to pass from the blood into the body's cells to provide energy.
- In type 2 Diabetes the insulin does not work properly and therefore blood glucose levels rise.

Diabetes

Type 1

Usually diagnosed in childhood
The body stops producing insulin due to an autoimmune response
Treated with insulin
Cannot be prevented

Type 2

Usually diagnosed in adulthood and recently in teenagers
Insulin is not produced or used effectively
Caused by lifestyle, genetics and being overweight
Treated with lifestyle, tablets and insulin
Can be prevented / delayed or reversed

Symptoms



Prior to diagnosis you may have experienced weight loss and feeling tired.

You may have been thirsty and drinking lots which lead you to need the toilet more than usual.

These are symptoms of high blood glucose levels

Causes of Diabetes



Being overweight is the main cause for Type 2 Diabetes. Your BMI (Body Mass index) is calculated from your height and weight, the bigger the number the more overweight you are.

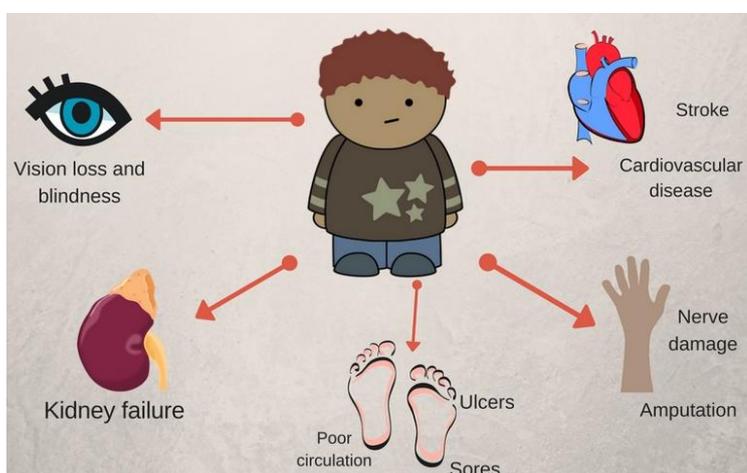
If you have parents or grandparents with Type 2 Diabetes you are more likely to get Type 2 Diabetes yourself

If your family is South Asian you have a higher chance of getting Type 2 Diabetes at a lower weight. This is due to genetic factors which you cannot do anything about.

Sitting for large parts of the day and lack of exercise increase risk of developing Type 2 Diabetes

Having a diet high in sugar, fat and large portion sizes increases the risk of being overweight and of having Type 2 Diabetes

Effects and Complications of Diabetes



If you manage your diabetes correctly you can slow these complications

When diabetes is diagnosed in childhood these complications develop faster and earlier.

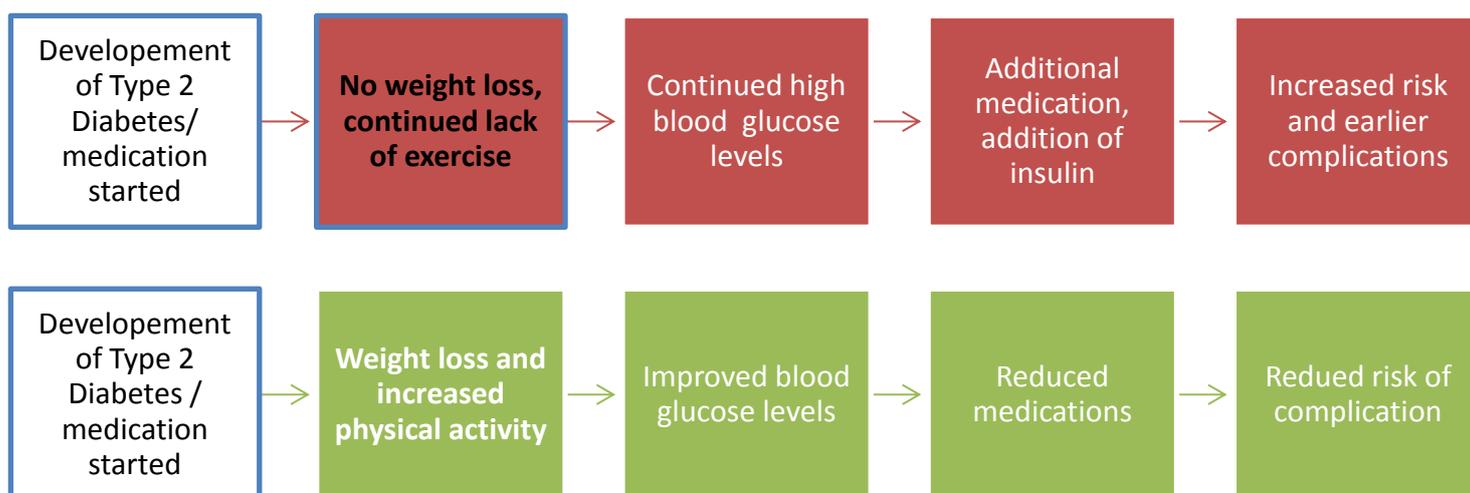
Once you have been diagnosed with diabetes your eyes, feet, urine and blood fats will be tested yearly to check for these conditions

Your blood pressure and HbA1c will be checked at each clinic

Complications of Type 2 Diabetes can be as severe as Type 1 diabetes, especially if you develop Type 2 at a young age (teenagers)

Goals of Type 2 Diabetes Management

- **Healthy Lifestyle changes for the whole family**
- **Weight loss of 5-10%** (This is the only way to slow down development of diabetes)
- **Increased exercise and daily activity**
- **Good sleeping habits**
- **Managing Blood Glucose levels**



HbA1c % old measurement	HbA1c mmol/mol new measurement	Risk of future problems e.g. eyes, kidney heart, nerves, feet
5.5%	37	No risk
6.5%	48	Extremely Low
7.0%	53	Very Low
7.5%	58	Low
8.0%	64	Low/Medium
8.5%	70	Medium/High
9.5%	80	High
10.5%	91	Very High

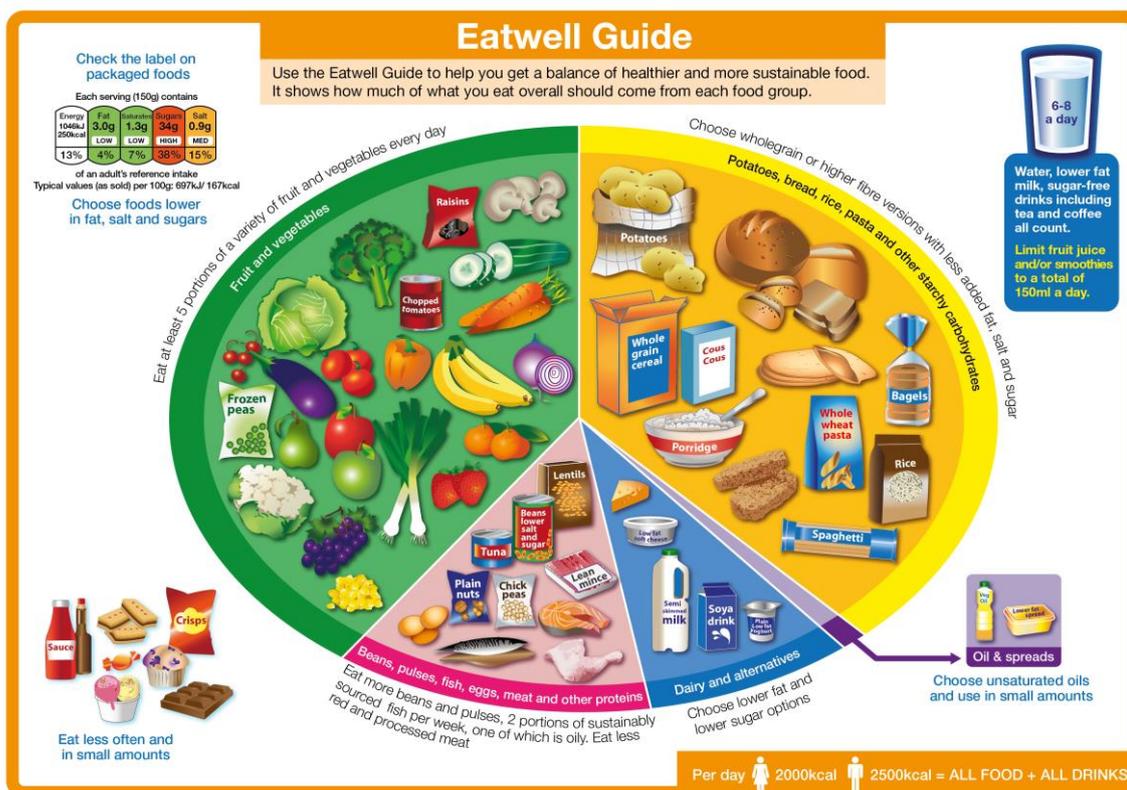
Lifestyle Guidelines

The whole family needs to be involved and parents should lead by example!



- Eating **together** at mealtimes at roughly the same time each day, in the same place and without any TV, books, tablets or mobile devices about
- The **whole family** should agree to reduce the amount of snacks and sugary drinks that are available in the house
- Have routine meal times and don't skip meals

- Have a variety of healthy foods available for **all the family** (fruit, salad, vegetables, rice cakes, sugar free jelly)
- You should do daily physical activity **together**
- Introduce routine of going to bed on time and waking up in the morning



Source: Public Health England in association with the Welsh government, Food Standards Scotland and the Food Standards Agency in Northern Ireland

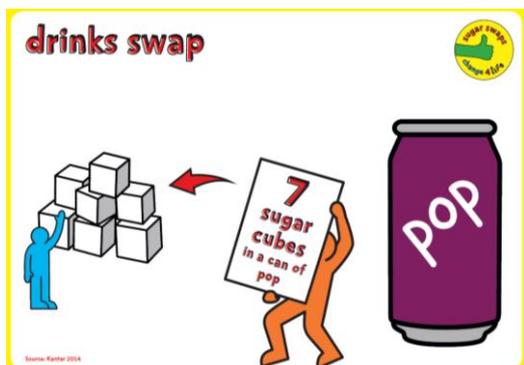
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Keep a positive attitude about the changes that need to be made

NO Sugary Drinks

Sugary drinks cause a rapid rise in blood glucose which is bad if you have type 2 Diabetes. We advise you cut out all drinks that contain sugar. Check the label: >2g/100g is too high

These drinks **should not be in the family home** and are not recommended for anyone.



Choose your Carbohydrates Wisely and Eat in Moderation

Some foods are more slowly digested and the energy (glucose) is released into the blood more slowly. These foods can help to keep you fuller for longer. Eaten in **moderation (you may need to reduce your portions)** they help to control your blood glucose levels.

Bread: Granary, multigrain, seeded, wholemeal breads/ pitta / chapatti

Breakfast cereals: Whole oat Porridge, no added sugar muesli, All Bran, Fruit'n'Fibre, Shredded Wheat, Oatibix, Oatiflakes, Weetabix,

Rice, pasta and cereals Basmati rice (white or brown). All types of pasta are slow releasing; just don't overcook it. Pearl barley, bulgur wheat, couscous



Starchy vegetables and pulses

Boiled new potatoes, sweet potatoes, yam, taro, sweet corn, cassava, green banana, plantain. Baked beans, kidney beans, chick peas, split peas, lentils and black eyed beans are all great choices.

My Diabetes Diet Plan

My weight now

**5% weight loss
(over 3-6 months)**

**10% weight loss
(over 6- 12months)**

**How many calories does my
body need per day:**

If you eat this amount your weight
would remain the same

**How many calories should I eat
to reduce my weight:**

If you eat this amount you should
lose 1-2lb per week

**How many carbs should I eat
per day**

Divide this between your meals,
Breakfast = 35g carbs
Lunch = 60g
Dinner = 60g

**How many carbs from Dairy
should I have per day?**

Divided this over 3 portions
e.g. 1 yoghurt and 200mls milk
OR 2 x yoghurt and 100ml milk.

**How many carbs should I have
from fruit per day?**

This should be in the form of 2 forms
of fresh fruit per day with meals

Snacks?

Exercise Guidelines (5-18years)

Exercise is better medicine than any drug



- 1. All children and young people should engage in moderate intensity physical activity for at least 60minutes and up to several hours per day**

Moderate intensity = Feeling warmer, breathing harder, heart beating faster but you can continue a conversation
e.g. Bike riding, playground activities, brisk walk



- 2. Vigorous intensity activities including those that strengthen muscle and bone, should be incorporated at least 3 days per week**

Vigorous = getting warmer, much harder breathing, heart beating rapidly, holding a conversation would be difficult
e.g. fast running, swimming, football



Strengthening bones = swinging on play equipment, hopping, skipping, gymnastics or tennis

Exercise should be fun and there maybe activities you didn't know you would enjoy until you give them a go. Look up what is available in your local area.



All Children and young people should minimise the amount of time spent being sedentary (Sitting) for extended periods.

- Less time watching TV, using computer or video games
- Break up sedentary activity by walking part of a route

The Whole family should get involved in physical activity

Medical Management of Type 2 Diabetes

Ideally Diabetes is managed with lifestyle changes, increased activity and diet.

Additional you will be started on metformin which could be stopped if lifestyle changes are successful.

Why check your blood glucose levels?

- To help you and your diabetes team know if you are on the correct treatment plan
- So you know about your health and can take action
- To monitor symptoms of high and low blood glucoses
- To view patterns and understand the effect of food and exercise on your blood glucoses



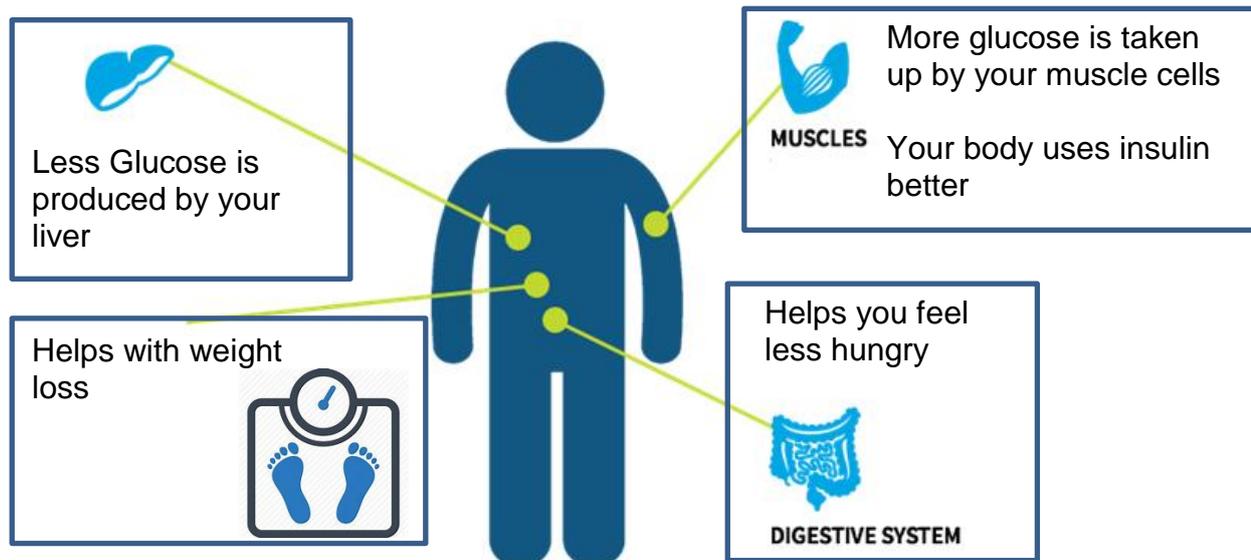
Blood Glucose Targets

- Your blood glucose **before meals** should be **below 7mmol/l**
- **Two hours after meals** your blood glucose should be **below 8.5mmol/l**
- If you are on metformin **ONLY** low blood glucoses are not a problem, contact your team if they are below 2.5mmol/L more than once because that is unusual.

How often should I test my blood glucose?

- When you are first diagnosed you will be asked to test regularly
 - **Before meals**
 - **2 hours after meals**
 - **Before bed**
- If you are on metformin **ONLY** in time you will only need to test your blood glucose 4-6 times **per week**.
 - 3 x fasted (prior to a meal or when you wake up)
 - 3 x 2 hours after a meal.
 - These tests are especially important prior to clinic appointments so that your medications can be adjusted.

How Does Metformin Work?



- Sometime people feel sick when they take metformin or have tummy pains but this usually settles in the first few weeks. If you are having these problems after this time, contact the diabetes team.
- If you find the tablet is too big to swallow and you have difficulties taking it, it can be crushed. Pill crushers are available from your pharmacy but also a mortar and pestle can be used. The powder will not dissolve in water but can be mixed with foods such as yoghurt and eaten. If you are still having problems there are other forms of this medication available.



When to increase your doses?

You will start with 1 tablet per day and increase to 2 tablets, twice per day. Your team will write the dates for your dose increases in the table below. You can also change to 2 x 1000mg tablets.

Dose	1 x 500mg	1 x 500mg 1 x 500mg	2 x 500mg 1x 500mg	2 x 500mg 2 x 500mg
Start date				
Time of day				

What if I forget my dose?

If you usually give it twice or three times a day: Give the missed dose as soon as you remember, as long as this is at least 4 hours before the next dose is due. If you remember after that time, do not give the missed dose, just give the next dose as usual. Make sure you give the missed dose with or just after food (two biscuits or a slice of toast is enough) or a meal. Never give a double dose of metformin!

Side Effect:

If your child starts to breathe very fast and deeply and becomes dizzy, drowsy (sleepy) and confused, stop giving this medicine and take your child to hospital or call an ambulance **straight away**, as they may be suffering from a rare reaction to metformin called lactic acidosis.

Insulin

- If your blood glucose levels continue to be high then you may start on insulin injections.
- These maybe once or twice per day but could also be with your food.
- If you are on insulin you are also at risk of low blood glucose levels (hypoglycaemia).
- You will need to test your blood glucose levels more regularly.



Annual Checks

Each year you should get all the below care and checks done:

- Blood glucose test (HbA1c test)
- Blood pressure check
- Cholesterol check (for blood fats)
- Eye screening
- Foot and leg check
- Kidney tests
- Free flu jab
- Support with any sexual problems
- Help to stop smoking
- Specialist care if you're planning to have a baby

Patient Advice and Liaison Service (PALS)

Please contact us if you need general information or advice about Trust services.

www.bartshealth.nhs.uk/pals

Large print and other languages

For this leaflet in large print, please speak to your clinical team.

For help interpreting this leaflet in other languages, please ring 020 8223 8934.

Te informacje mogą zostać na żądanie przedstawione w formatach alternatywnych, takich jak łatwy do czytania lub duża czcionka, i w różnych językach. Prosimy o kontakt pod numerem 02082238934.

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