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A fresh approach to life with Type 2 diabetes



A practical guide to living with **Type 2 diabetes**

Want to take charge of your Type 2 diabetes? Want to find motivation to live a healthier life? You've come to the right place!

You can also look at **better-living.co.uk** which is full of information and articles about finding ways to take control and feel good – inside and out

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This magazine is about learning all about Type 2 diabetes so that YOU feel more in control

Type 2 diabetes is different to many other medical conditions in that you, the person with diabetes, have an active role in managing the condition. Your diabetes care team will prescribe treatments and give you advice and support on how to take care of your Type 2 diabetes, but the daily management is in your hands.

In order to manage your Type 2 diabetes to the best of your ability you will need to learn about the condition, how it affects you and how your daily activities will affect it.

This magazine provides a starting point, with some information about Type 2 diabetes, how to take care of yourself, your local diabetes care team and where to obtain further information and support.

You can also look at better-living.co.uk, which is full of information and articles about finding ways to take control and feel good – inside and out.



What is diabetes?

Diabetes is a common condition that can affect adults and children. It is diagnosed when the amount of glucose (sugar) in your blood is too high. We explain the specific reasons for this in later pages. The main problem is the pancreas doesn't produce enough insulin, or the body doesn't respond how it should to the insulin it produces.

What is the difference between Type 1 and Type 2 diabetes?

Type 1 diabetes

In Type 1 diabetes, the body stops producing insulin. As Type 1 diabetes usually develops in children and young adults (although it can occur at any age) you may hear Type 1 diabetes being referred to as “early onset”.

The management of Type 1 diabetes requires treatment with insulin, combined with healthy eating and exercise.

Type 2 diabetes

In Type 2 diabetes, the body still produces insulin, but not enough for the body's needs and the insulin it does produce is not used effectively (this is known as insulin resistance). 90% of adults in the UK with diabetes have Type 2 diabetes.

This magazine focuses on Type 2 diabetes

TYPE 1 DIABETES		TYPE 2 DIABETES	
Usually starts in childhood, with some cases developing in adults		Usually starts in adulthood	
Needs lifelong treatment with insulin injections or an insulin pump		Depending on how severe it is, and how long you've had it, can be treated with lifestyle changes, a wide range of tablets and may need injectable treatments	
Accounts for about 1 in 10 cases of diabetes in the UK		Accounts for about 9 in 10 cases of diabetes in the UK	
Symptoms often develop quickly – sometimes within a few days		Symptoms often develop gradually – sometimes over several years	

Understanding diabetes



You are not alone – diabetes is a common condition

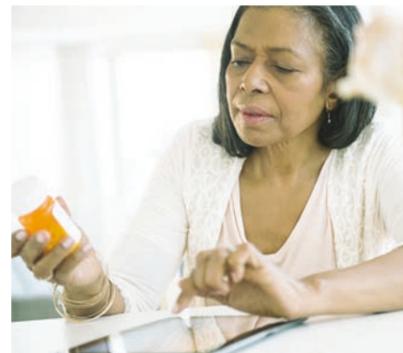
- Over **4 million people in the UK** are living with diabetes
- Worldwide, diabetes is thought to **affect 415 million people**
- **By 2025** it is estimated there will be **5 million people** with diabetes in the UK
- An estimated **half a million people in the UK** have diabetes and don't even know it
- Around **700 people a day are diagnosed with diabetes**. That's the equivalent of 1 person every 2 minutes

Type 2 diabetes develops gradually, and you can have it without knowing for a long time.

Treatment for diabetes aims to keep your blood glucose (sugar) level as near to normal as possible. To do this you may have to try to lose weight if you are overweight, perhaps by changing what you eat and by being more physically active.

If changing your diet and activity alone does not work to control your Type 2 diabetes you may have to take some tablets or have

insulin injections, or injections of another Type 2 diabetes medicine. Keeping your glucose level as near normal as possible is very important. This is because it will help protect against complications that can happen over time.

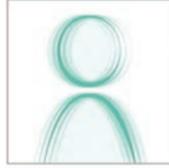


Symptoms

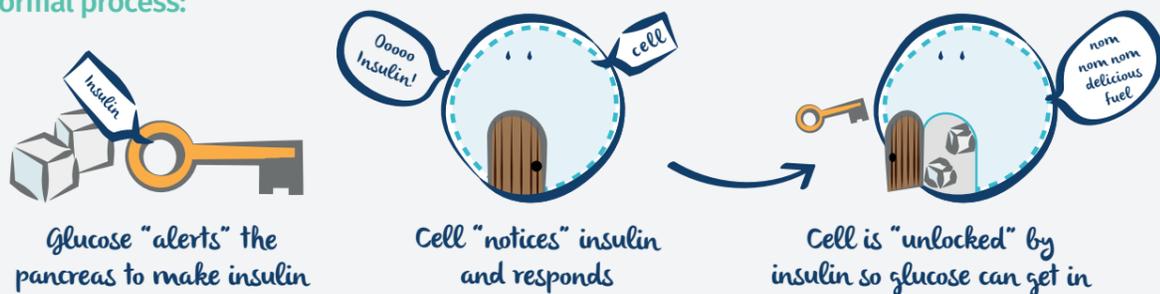
With Type 2 diabetes, symptoms are not all that obvious, as the condition develops slowly. These symptoms may only be picked up in a routine check-up, which is why these check-ups are important.

Some patients with Type 2 diabetes may not experience symptoms, however, common symptoms can include those seen on the right hand-side.

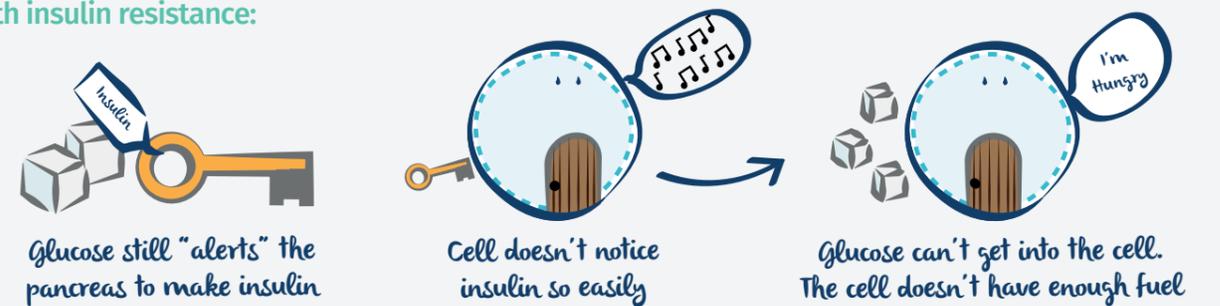
The good news though, is that with the right treatment and management Type 2 diabetes symptoms can soon be relieved.

			
feeling thirsty	Needing to urinate more often	Having a dry mouth	feeling tired
			
feeling dehydrated	losing weight when you're not trying to	Blurred vision	Getting infections repeatedly, such as cystitis, thrush or skin infections

The normal process:



With insulin resistance:



Causes

A lot of people seem to think Type 2 diabetes is just what happens if you eat too many cakes, put on too much weight, or don't move enough, but it's more complicated than that. In practice, it develops gradually – you might have it for a long time without even knowing. However, there are a number of “risk factors” that make it more likely that Type 2 diabetes will develop. Some of these risk factors you can't do anything about, like your family history, but the good news is that some are lifestyle-related factors that you can change for the better.

People more at risk of developing Type 2 diabetes include:

- Those over the age of 40
- Those with a family history of diabetes (such as a grandparent, parent or brother/sister who has it)
- Those of Asian or African-Caribbean origin
- Those who are overweight
- Women who have had a baby weighing over 4kgs or were diagnosed with diabetes which developed during pregnancy

Age

The risk of developing Type 2 diabetes increases with age. This, however, could quite easily be linked to the fact that as we get older we exercise less, and weigh more. However, Type 2 diabetes is becoming more and more common at younger ages, and it is even being diagnosed in children as young as seven.

Genetics

If you have a relative with Type 2 diabetes you are at a greater risk of developing diabetes yourself. The general rule is that the closer the relative, the more likely you are to develop Type 2 diabetes.

A child with one parent with Type 2 diabetes has a one in three chance of developing diabetes.

Type 2 diabetes: the basics



Treatment aims to help people to control their blood glucose level. By doing this the risk of developing complications over time can be minimised.

Ethnicity

People of Asian and African-Caribbean descent are more likely to develop Type 2 diabetes. People of Asian origins were found to be six times more likely to develop Type 2 diabetes, while people of African-Caribbean origins were found to be three times more likely to develop Type 2 diabetes, than those of white origin.

Being overweight

Being overweight increases the chance of Type 2 diabetes. Fat around the abdomen can be a significant cause, as the fat releases chemicals that can upset the cardiovascular (heart and blood vessels) and metabolic (breaking down food, and re-using the energy) systems. Weight loss can decrease the risk of Type 2 diabetes, with just a 5% loss in weight leading to a 50% decrease in risk.

Treatments

Type 2 diabetes is a progressive disease, and most people will progress to needing medicine and changes in medicine over time. If you have been diagnosed with diabetes you will need to look after your health, and closely monitor your condition. Your diabetes care team will always be on hand to help out and support.

Medicine

If lifestyle changes aren't working, you may require prescription medicine. Many people with Type 2 diabetes start off with metformin, and later other medicines may be added.

There are a range of different medicines for Type 2 diabetes, working in different ways. Each of these is suitable in specific circumstances, so your diabetes team will be able to choose the most appropriate medicine for you.



Managing Type 2 diabetes

There are lots of things you can do to help gain control of your Type 2 diabetes. A good, solid, all-round health routine paying particular attention to the needs of people with Type 2 diabetes should include:

Diet
Eating healthily helps control your glucose (sugar) and cholesterol (fat) levels in your blood

Weight
It is important to maintain a healthy BMI (weight to height ratio)

Smoking
There is a higher risk of cardiovascular disease with Type 2 diabetes, which is made worse by smoking

Foot care
It is important to take care of your feet, and check them often

Monitoring
This can play an important role in keeping track of glucose levels

Family and friends
Having support from friends and family in the treatment of Type 2 diabetes can help with accepting or adapting to the changes required

Physical activity
Regular physical activity promotes good health and offers many benefits to people with Type 2 diabetes. It may help you to lower your blood glucose, to lose weight and reduce your blood pressure if you need to

Attending follow-up and eye screening appointments
Even when feeling well and blood tests show glucose is well controlled, attending regular reviews and eye screenings is essential for the management of Type 2 diabetes

Blood pressure
It is important to keep your blood pressure at a normal level. Attending regular check-ups will help to keep blood pressure under control and ensure it does not rise without you realising. This is important as it will help to reduce the risk of having a stroke or heart attack

Support with managing Type 2 diabetes

A team of healthcare professionals will always be available to help you with your Type 2 diabetes management; to provide advice, and support.

In your local community your team could consist of:

- GP
- Dietician
- Community/Practice Nurse
- Podiatrist
- Optician
- Pharmacist
- Diabetes Specialist Nurse (DSN)

The team may regularly review your Type 2 diabetes and any complications linked with it.

Controlling blood glucose levels and other risk factors can be challenging, you may be referred to a hospital diabetes team, who will, as always, be there to provide advice and support for you.

The well-wishers
You can also get practical and emotional support from friends, family and your partner. People who care about you will want to know how they can help. Maybe someone could commit to getting fit with you, or the whole family could explore a healthier diet. Sometimes, just having someone to talk to can make all the difference.

The boss
Having Type 2 diabetes does not mean that you won't be able to find or keep a job. However, because some employers don't know enough about Type 2 diabetes they may be reluctant to employ someone with the condition. The Disability Discrimination Act covers your employment rights. People with Type 2 diabetes should be assessed for a job on an individual basis. Contact Diabetes UK for more information, and refer to your diabetes care team for any advice or support.

Diabetes UK
Tel: 0345 123 2399
Email: info@diabetes.org.uk
www.diabetes.org.uk

Being diagnosed with Type 2 diabetes does mean that you may have to make some changes to the way you live your life

With a lifelong illness like Type 2 diabetes, there are possible long-term complications. However, patients with well controlled Type 2 diabetes, and who adopt a healthy diet and active lifestyle, may avoid developing additional complications for many years.

Diet

You may need to change what you eat but there is no such thing as a special “diabetic diet”. All you need to do is adapt to have a healthy diet, if you weren’t already doing so.

Smoking

Smoking is bad for anyone’s health. The combination of Type 2 diabetes and smoking carries an even higher risk than smoking does on its own. This is because Type 2 diabetes increases the risk of heart disease. Plenty of help is available to anyone who wants to give up smoking.

Alcohol

If you enjoy an alcoholic drink, you can still have one, as long as it’s not to excess. Like everyone, you are advised to limit your alcohol intake to no more than 3-4 units a day for men, and 2-3 for women.

Aim to have two or three alcohol free days each week. Do not drink on an empty stomach, and if you are overweight try to limit your alcohol intake even more.



Lifestyle changes

Diet and Type 2 diabetes

A diet that will help you to control your Type 2 diabetes is not a special diet. It is simply a healthy diet that will benefit anyone who follows it.

People with Type 2 diabetes don’t need to have a restricted diet. They can eat the same healthy diet that’s recommended for everyone. The aim is to have an overall balanced way of eating – it is not about excluding specific foods.

You will still be able to eat some sweet foods as long as it is occasionally. However, you do need to be more careful about sweetened drinks, as they are quickly absorbed and rapidly increase your blood glucose levels.

When eating out, try to make the most appropriate choices from the food available. You also need to keep an eye on your meal times as this may affect your blood glucose control.

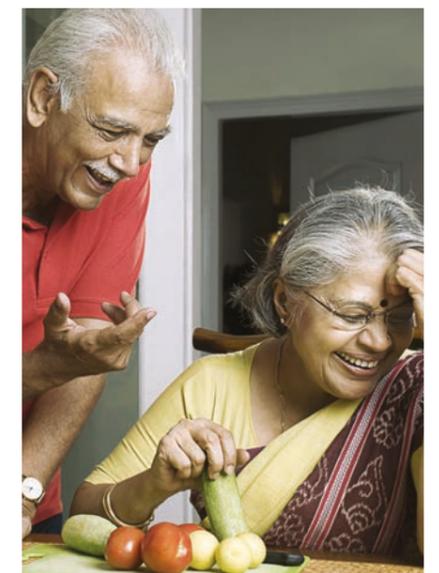
Why diet matters when you have Type 2 diabetes

In order to maintain your health and avoid long-term complications, it is important to control your:

- Blood glucose level
- Blood pressure level
- Cholesterol levels
- Weight

Following a healthy diet will control those factors, which will act to prevent your diabetes becoming worse, and also prevent the development of complications.

Even if you are prescribed medications to control all of these factors, you must still ensure you have a healthy diet. By eating healthily and exercising regularly, some people will avoid or delay the need to take more medication for Type 2 diabetes.





The principles of a healthy diet

If you have been given advice from a dietician, it's best to follow that advice as it has been drawn up specifically for you. However, there are some general guidelines for healthy eating that will help you work out what you can and should integrate into your daily diet:

- **Portion sizes have grown in recent years** – this is one of the ways we put weight on without realising. Try using smaller plates to cut back on your portions without making your dinner look smaller.
- No single food contains all the essential nutrients you need in the right proportion. That's why **you need to consume foods from each of the main food groups to eat well.**

- Everyone should eat **at least five portions of fruit and veg a day.** Fresh, frozen, dried and canned fruit in juice and canned vegetables in water all count. Go for a rainbow of colours to get as wide a range of vitamins and minerals as possible.
- Better options of **starchy foods – such as wholegrain bread, wholewheat pasta and basmati, brown or wild rice – contain more fibre,** which helps to keep your digestive system working well. They are generally more slowly absorbed (that is, they have a lower glycaemic index, or GI), keeping you feeling fuller for longer.
- **Meat, fish, eggs, pulses, beans and nuts are high in protein,**

which helps with building and replacing muscles. They contain minerals, such as iron, which are vital for producing red blood cells. Oily fish, such as mackerel, salmon and sardines, also provide omega-3, which can help protect the heart. Beans, pulses, soya and tofu are also good sources of protein.

- **Milk, cheese and yogurt contain calcium and are good sources of protein.** Some dairy foods are high in fat, particularly saturated fat, so choose lower-fat alternatives – but check for added sugar.
- **High fat and high sugar foods can be an occasional treat,** but have lots of calories and won't do your weight loss efforts any good.

- Fat is high in calories, so try to reduce the amount of oil or butter you use in cooking. Remember to **use unsaturated oils, such as sunflower, rapeseed or olive oil,** as these types are better for your heart.
- Too much salt can make you more at risk of high blood pressure and stroke. Processed foods can be very high in salt, so **try cooking more meals from scratch at home where you can control the amount of salt you use.**
- **People with Type 2 diabetes are not recommended to eat “diabetic” foods.** They are expensive and unnecessary and have no benefit over ordinary foods.

Exercise and Type 2 diabetes

Being active is good for all of us, but is especially important if you have Type 2 diabetes. Looking after yourself when you have Type 2 diabetes means increasing your physical activity as well as managing your diet and taking your medication. They are all equally important in controlling your blood glucose levels.

A good starting point is to aim to take part in a moderate activity such as 30 minutes brisk walking 5 times a week. This might be something you could achieve now or you may be able to build up to it over a period of time.

If you haven't exercised for a while, it is very important that you ask for advice from your doctor or nurse before starting.

Being active is great for your physical well-being, but on top of that are also the benefits it can have for your mind, reducing stress.



Why should you exercise?

- Keeps the brain active
- Keeps the joints mobile
- Strengthens the heart
- Regulates blood glucose levels
- Improves insulin sensitivity
- Improves circulation
- Lowers blood pressure
- Releases endorphins (happy hormones) – making you feel good
- Reduces stress – relaxation
- Increases lung capacity
- Strengthens the muscles and bones
- Tones the stomach
- Strengthens the back
- Reduces fat around organs
- Helps you lose weight
- Reduces the risk of heart disease
- Lowers blood sugar

Adopting active habits

- Choose the stairs – walk up escalators
- Walk or cycle for short journeys
- Turn off the TV and get out and about
- Do housework to music: it's fun and chores seem easier
- Find someone to exercise with – it could even be your dog (if you don't have one there are plenty of dog rescue centres in need of volunteer dog walkers)
- Park further away from work, walking just that bit further each day





Appointments and your annual review

Regular reviews play an important part in ensuring that you lead a normal and healthy life, managing your Type 2 diabetes as effectively as possible. The following aspects of your life will be examined and tested:

Lifestyle

- Your general wellbeing; how you are coping with your diabetes
- How your family and/or your friends have adjusted to your lifestyle changes
- Your current treatments
- Your Type 2 diabetes control – including home monitoring results
- Any problems or concerns you may have
- Discussions about smoking habits, alcohol consumption, stress, sexual problems, exercise and healthy eating issues. You should have the opportunity to discuss these topics with your team as well as receive additional support such as advice on smoking cessation and emotional/psychological support

Physical examinations

- Weight calculated as Body Mass Index (BMI). This informs your doctor about your weight in relation to your height. From this you may be advised to lose weight,

if needed, which will aim to further improve the control of your Type 2 diabetes. Waist circumference and/or waist-to-hip ratio measurements may also be taken

- The skin on your legs and feet should be examined to check circulation and nerve supply
- Blood pressure should be measured. A blood pressure of 130/80 mmHg or less is ideal
- Eyes should be photographed annually so any early changes to the eyes can be detected. This examination is free of charge and is carried out either at your optician's, local hospital, or at a mobile screening unit

Lab tests and investigations

- **Blood glucose control:** an HbA_{1c} blood test will examine your long-term blood glucose control. Generally, you should aim for an HbA_{1c} around 6.5% (48 mmol/mol). However, your doctor or nurse will confirm your specific target with you
- **Kidney function:** urine and blood tests will show whether your kidneys are healthy and working properly
- **Blood fats and cholesterol:** a blood test should be performed
- These tests may not be carried out every time you see a member of your diabetes care team. Your doctor or nurse will know which tests/investigations are needed

Exercise ideas

If you are less mobile, you can increase your activity with armchair exercise, gentle walking and stretching programmes.

Incorporate three components of fitness in your activities: strength, stamina, and flexibility.

The talk test: how to know how hard you're working

While you are doing your activity you can easily find out if you are gaining fitness:

- If you can **sing** during exercise – you could perhaps **work harder**
- If you can **talk** during exercise – that is **about right**
- If you are **gasping** during exercise – **slow down** and get your breath

Activity ideas

At leisure centres and health clubs:

Yoga
Aqua aerobics
Swimming
Spin classes
Circuit training

At home:

Cleaning
Tidying/sorting clutter
Gardening
Stair climbing
Exercise biking
Exercise DVD
Decorating

Outdoors:

Walking
Hiking
Golf
Bowling
Cycling
Tennis
Jogging

In groups:

Ten pin bowling
Rambling
Dancing
Join an exercise class
Martial arts
Mountain biking



Preparing for appointments

Preparing for your visit to the Type 2 diabetes review:

- Make a list of the points you want to discuss
- Take a list of the medications you're currently taking, including the dose you're on
- If you are on insulin, bring your log showing the times of the day you usually inject
- Take a list of names of any other doctors who are also aiding with your treatment
- Take your booklet containing your blood glucose test results

Refresh your memory and think about:

- How often you get low (hypoglycaemic) or high (hyperglycaemic) blood glucose levels
- Any changes in your vision or other symptoms (e.g. chest pains, changes in sensation in feet)
- Any problems you have had e.g. passing urine (getting up at night to pass urine, or going more frequently during the day)
- How you feel in yourself – any mood swings, low spirits

The following should also be checked at least once a year:

- Average blood glucose levels (HbA_{1c})
- Blood pressure
- Your feet
- Your eyes
- Your kidney function (this will be a blood test)
- Cholesterol and triglyceride (this will be a blood test)
- Your weight

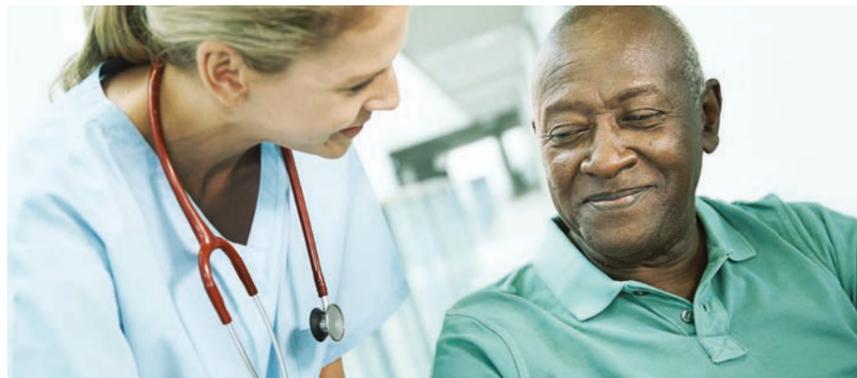
- If you are on insulin, your injection sites should be checked

What should you do if you're ill?

Any illness may cause your blood glucose to rise. When you have Type 2 diabetes, when you do get ill with other things (such as flu, bronchitis, diarrhoea or cystitis) it can make you worse than it normally would feel. For this reason you need to closely monitor your Type 2 diabetes, which may include testing your urine or blood more often during an illness.

Dehydration is made worse when you have a temperature or are being sick. In some cases, blood glucose levels can become so uncontrolled that treatment in hospital is necessary. Severe dehydration and very high blood glucose levels may be serious for both those with Type 1 and Type 2 diabetes. That's why being prepared, and following the necessary steps when ill, is vital to manage your diabetes well and avoid the worst effects of illness.

If your symptoms appear to be worsening, be sure to seek medical advice.



Signs that the illness is affecting your Type 2 diabetes include:

- High blood glucose levels
- Thirst
- Passing large amounts of urine, especially at night

It is very important that you:

- Do not ignore these signs
- Do not stop your medication unless specifically advised to by your doctor
- Monitor your blood glucose levels more often. If your blood glucose level is 15mmol/l or more, check urine/blood for ketones. If ketones are present, contact your diabetes care team.
- Eat normally but if not possible then try fluids or soft foods
- Drink plenty of water or sugar-free fluids to avoid dehydration

It is recommended that everyone with Type 2 diabetes has the flu jab, as getting flu can be serious if you have Type 2 diabetes. The jab is free and usually available from your GP surgery in the autumn. You can discuss this with your nurse, and talk through any possible concerns you have.

Ask your nurse for more information about coping with your Type 2 diabetes when you are ill.

Practical notes



What is HbA_{1c}?

Blood glucose testing is essential for all people with diabetes, as glucose levels cannot be accurately determined by symptoms alone.

For some, testing blood glucose helps to monitor their Type 2 diabetes and allows adjustments in diet, physical activity and medication to be made if needed.

There are two forms of blood glucose testing:

- A finger prick test which tells you your current blood glucose levels
- A blood test to measure your average blood glucose over the past 2-3 months. This is the HbA_{1c} test

Everyone with Type 2 diabetes should have the HbA_{1c} test at least once a year, although you should have the test more frequently if

your blood glucose level is too high or if there are changes to your treatment plan. Working to get your HbA_{1c} down can delay or prevent the development of serious eye, kidney, heart and nerve disease.

The test is usually carried out during a visit to a diabetes clinic or GP, and is a simple blood test.

When the results of the HbA_{1c} test are known and explained to you, it makes it possible for you to take an active role in your Type 2 diabetes management. Your GP or nurse will be able to advise what your personal target HbA_{1c} level should be.

If your HbA_{1c} is greater than your target level, you should work with your diabetes support team to change your lifestyle and treatment plan to reduce the value. If your HbA_{1c} is less than 6.5% (48 mmol/mol) then your HbA_{1c} is close to normal. Your treatment

plan is probably working and it is likely that your blood glucose level is under good control.

If the results of your HbA_{1c} test are high, you might think about whether you've...

- Changed your meal plan or eating habits
- Forgotten or stopped taking your medication, or started taking the wrong dose
- Taken your medication at the times of the day recommended by your doctor/nurse
- Changed your physical activity routine
- Been stressed for a long period of time
- Had an infection or illness

Diabetes and medicines



The aim of Type 2 diabetes treatments is to reduce the symptoms of diabetes, get the blood glucose levels to as near to normal as possible, and minimise the risk of long-term complications.

Key information about Type 2 diabetes medications

The medications for Type 2 diabetes have different actions but they all aim to reduce the level of glucose in your bloodstream. Taking your medication regularly will help you to avoid further complications of Type 2 diabetes.

Medication is not an alternative to controlling your diet, maintaining normal weight and doing regular physical activities. They all work hand-in-hand.

Everyone responds differently to the various treatments. If one treatment does not work for you and you have to change to another treatment, understand that it is all

a process that must be followed, and, together with your diabetes care team, you can figure out which treatment is right for you, and will gain you the best response.

Treatments tend to change over time

One medication on its own may not be enough to help control your glucose. It may be necessary for you to take two or more together. It is quite normal for your dose strength and/or number of tablets to be increased over time; this is just a natural process as Type 2 diabetes progresses. Alternatively, your body can become used to the medication and not respond as well.

As diabetes is a long-term condition that often progresses over time, most patients will eventually be treated with medication. People with Type 2 diabetes can be understandably apprehensive about needing to take tablets or insulin. If you do later need

treatment with insulin you will be helped to understand how it can work for your benefit. After a period of adjustment people often report how much better they feel by taking the insulin.

Your diabetes care team

If you have any questions about the medication that you have been prescribed, ask your nurse, doctor or pharmacist.

Discuss your diabetes medication with your diabetes care team and feel free to ask any questions. Please tell them if you are experiencing any side effects so that they can help.

Common Type 2 diabetes medicines

Your diabetes care team may prescribe medicines to help you control your blood glucose. There are several medicines available, each working slightly differently. These vary from person to person. It will depend on how you can tolerate certain drugs, how well your Type 2 diabetes is controlled, plus other health-related factors such as your kidney function.

Metformin

Reduces the amount of glucose produced in the liver and helps glucose to be used more effectively

Thiazolidinediones (glitazones)

Enable your body to use insulin more efficiently and stop the liver from over-producing glucose

DPP-4 Inhibitors (gliptins)

Increase insulin secretion and

lower glucagon secretion (a hormone that raises blood sugar levels)

Sulphonylureas

Increase production and secretion of insulin from the pancreas

GLP-1 Agonists (incretin mimetics)

Injection used to increase insulin secretion, suppress glucagon secretion and slow gastric emptying

SGLT-2 Inhibitors (gliflozins)

Reduce glucose re-uptake in the

kidneys, resulting in more glucose being excreted in the urine

Post-prandial glucose regulators (glinides)

Increase the production of insulin in your body after a meal

Acarbose

Slows the digestion and uptake of carbohydrates from the gut after eating

Insulin

Replaces or supplements naturally produced insulin



Legal requirements

When you have Type 2 diabetes, you have certain legal obligations (things you have to do) and rights. For example, you may need to inform the DVLA if you drive. People are also not allowed to discriminate against you unfairly.

Employment

Having Type 2 diabetes does not mean that you won't be able to find or keep a job. However, because some employers don't know enough about diabetes they may be reluctant to employ someone with the condition. The 2010 Equality Act covers your employment rights and makes it unlawful for an employer to ask about the health of an applicant before offering them work. People with Type 2 diabetes should be assessed for a job on an individual basis. Some jobs involving safety-critical work will have legitimate health requirements that may

exclude some people with certain medical conditions, including diabetes. For more information, try the Diabetes UK Advocacy Service: **Email: advocacy@diabetes.org.uk**
Tel: 0345 123 2399

Driving

If you have a driving licence and are treated with insulin you must inform DVLA that you have Type 2 diabetes. If you are on non-insulin medication you do not need to inform the DVLA unless you:

- Have had 2 or more severe hypoglycaemic (hypo) episodes within the last 12 months
- Develop impaired hypo awareness
- Experience a severe hypo whilst driving
- Change diabetes treatment from tablets to insulin
- Have other medical conditions that could affect your ability to drive safely.

For drivers of large passenger or goods vehicles you must inform DVLA of your Type 2 diabetes,

regardless of whether you are on insulin or non-insulin medication.

When applying for motor insurance you must declare your Type 2 diabetes. DVLA want to ensure your safety and will be concerned if you cannot recognise or self-treat your hypos. See the Diabetes UK website for more details.

Life insurance

If you are applying for life insurance you will need to declare that you have Type 2 diabetes.

Diabetes UK will be able to advise you of companies who will not 'load' your premium unfairly. If you already have life insurance your policy will not be affected by your diagnosis of Type 2 diabetes.

Travel insurance

When arranging travel insurance you will need to declare that you have Type 2 diabetes in order to obtain suitable cover. If you don't declare it and later become ill due to Type 2 diabetes, you won't be covered. Diabetes UK is a useful source of information.

Taking care of...



... your heart: cardiovascular disease

If you have Type 2 diabetes you are more likely to develop heart disease or have a stroke than someone without diabetes. This is because if you have Type 2 diabetes you are more likely to have some of the risk factors for heart disease and stroke.

These risk factors include:

- Raised blood glucose levels
- Raised blood pressure
- High LDL ("bad") cholesterol
- Being overweight

The good news is that there are ways you can reduce this risk by reducing or eliminating these factors.

Lowering high blood pressure

Blood pressure can be reduced in a number of ways:

- Losing weight if you are overweight
- Keeping physically active
- Reducing alcohol intake
- Limiting salt intake

- If necessary, there are medications which will help to reduce your blood pressure
- To reduce the risk of heart attack or stroke, you may need to take 2 or 3 blood pressure-lowering medications

Reducing LDL cholesterol

Cholesterol levels can be reduced by:

- Eating more heart-protecting foods (explore Diabetes.org.uk for ideas)
- Reducing alcohol intake
- Keeping physically active
- Taking regular exercise
- Giving up smoking (if you smoke)

Additionally, all patients with diabetes and cardiovascular disease should be considered for a cholesterol-lowering agent.

Losing weight

You can try to lose weight by:

- Reducing the fat in your diet
- Limiting alcohol to no more than one unit per day
- Keeping physically active
- Taking regular exercise
- Eating more fruit and vegetables

Stopping smoking

If you do smoke, it is very important that you stop smoking. Having Type 2 diabetes and smoking carries a very high risk. There is plenty of help available to help you stop smoking, and your diabetes care team will be available to help find what is best for you. If you have a family member or a close friend who can also help you to keep on top of your habit don't be afraid to ask them for support, as this will help to keep you motivated and on target.

Practical notes



... your feet

Foot problems are common for people with Type 2 diabetes. Three out of ten people with diabetes develop foot ulcers. They are the most common reason for people with Type 2 diabetes to be admitted to hospital.

Foot ulcers usually develop from just a small injury to the foot and can take a long time to heal.

They can also become infected, making healing more difficult. In rare cases, an ulcer can lead to serious problems like gangrene, which can even result in needing drastic surgery.

How foot ulcers develop

Having higher than normal blood glucose levels can, over time, cause damage to nerves. Nerve damage can reduce the feeling in your feet. Shoes can rub or cut into your feet without you realising, you may not feel hot water, or even a burn.

Raised glucose levels can also damage the small blood vessels in your body, which can reduce the blood supply to your feet. This can, in turn, result in your feet receiving less oxygen and other nutrients. Your skin can become frail, and more prone to injury. Once an injury is sustained it takes longer to heal.



Smoking and poorly controlled Type 2 diabetes increase the risk of foot problems.

Prevention

The good news is that if you inspect your feet daily, you may detect a problem earlier, and early intervention can help to avoid problems from developing. Remember to report any changes or loss of sensation in your feet to your foot care team as soon as possible.

There are also many things you can do to look after your feet:

- Wash and examine your feet daily
- Make sure you dry them thoroughly, especially in between the toes
- Massage your feet regularly with an emollient cream to prevent hard, dry and cracking skin
- However, avoid putting cream between the toes, which are normally moist enough already, as excess moisture could lead to fungal infections
- Corns and hard skin may need to be treated by a registered podiatrist. Ask the practice nurse or doctor for an appointment
- Do not walk around barefoot
- Keep your feet and legs away from very hot water, radiators, fire and extremes in temperature. You can easily damage your skin without realising
- Use a mirror to check the undersides of your feet
- Cut your toenails regularly, and carefully, after a shower or bath when they are soft. Do not cut down the corner of the nail or dig down the sides. Cut straight across following the shape of the toe, and file the nail afterwards
- Wear comfortable and properly fitting shoes



...your skin

How Type 2 diabetes affects your skin

When blood glucose levels are high:

1. The body loses fluid. Some of the fluid is lost from the skin, which causes the skin to dry out. This can lead to other problems because:
 - Dry, flaky skin may feel itchy – if you scratch your skin it may become sore
 - Dry skin is also more likely to crack, allowing germs to enter, which can cause infections

If your skin is dry and cracked, applying moisturiser may help.

2. You may be less able to resist infections and the time for your body to respond and heal will be slower. This can increase the risk of skin infections, boils, and

- Feel inside your shoes for any roughness, hard ridges, prominent seams, nails or stones
- Check your feet for any redness, which indicates pressure
- Ridges or seams in socks or stockings can cause blisters, which can become foot ulcers
- Ask about using elastic support stockings in general and in particular if you are travelling long distances by plane

spots, which may take a long time to heal

3. The nerves in your legs and feet may become damaged, which can be painful. You may also not be able to feel pain, heat or cold in those areas – this is called diabetic neuropathy. Type 2 diabetes may cause the blood vessels in your feet and legs to narrow, and harden, resulting in poor blood circulation

Ways to protect your skin

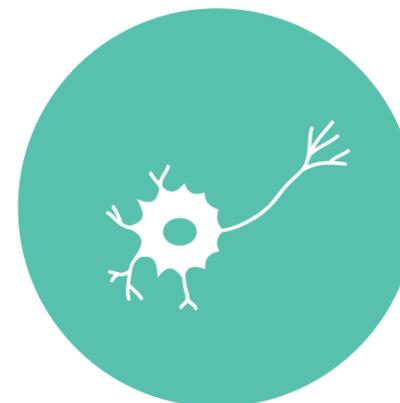
- Keep your blood glucose level to as near normal as possible
- Drink plenty of sugar-free fluid to re-hydrate your body from the inside
- Bathe or shower in warm rather than hot water
- Avoid long or too-frequent exposure to soaps and detergents as this can cause loss of oil from the skin, and cause more dryness
- Try a soap substitute such as aqueous cream to wash your hands, or shower oils for all over
- Use a moisturiser designed for dry skin
- Dry yourself properly, and wear cotton next to your skin as it allows air to circulate better than synthetic materials
- Try not to let your home become too dry (which can be caused by central heating). Using a humidifier can help to prevent this, but can lead to the house becoming too damp if it's used too much

If you think you may have a skin problem, make an appointment to visit your doctor.

If it's a problem with the skin on your feet, make an appointment to visit your podiatrist.



Practical notes



...your nerves: neuropathy

Neuropathy is damage to the nerves of the body that carry signals from the brain, and the spinal cord to the muscles, skin, blood vessels, and organs. Neuropathy is a very common complication of diabetes, and while it can lead to unpleasant symptoms, many people with diabetes may not be aware of it. There are 3 main kinds of neuropathy:

Sensory neuropathy

- Sensory neuropathy is the most common type of neuropathy,

affecting about 50% of people with Type 2 diabetes

- The nerves to the skin and muscles become damaged, causing a disruption of sensation to touch/heat, and pain, which can lead to injury and the potential for infection or ulcers
- The symptoms of sensory neuropathy include;
 - pain
 - numbness
 - tingling in the hands, legs, or feet
 - extreme sensitivity to touch

Autonomic neuropathy

- Autonomic neuropathy is less common, and affects the nerves that control involuntary activities of the body, such as the stomach, intestine, bladder, sexual organs, and heart
- Because autonomic nerves control so many different organs, symptoms vary depending on which organ is being affected

Motor neuropathy

- Motor neuropathy is very rare, and affects the nerves that supply the muscles

Treatment

- There are lots of options available to treat diabetic neuropathy. These include improving the control of your Type 2 diabetes or taking some medications
- The most important thing to remember is to take your treatment as recommended by your healthcare provider

Prevention

- The best way to reduce your risk of developing neuropathy, or to prevent it becoming worse, is to control your blood glucose levels. This means keeping to between 4-6 mmol/l before meals and up to 10 mmol/l 2 hours after meals
- Following a healthy, balanced diet, ensuring your prescribed medication is taken properly, and undertaking some form of regular physical activity are all important factors that will help to keep your blood glucose levels well controlled





...your eyes: retinopathy

Diabetic eye disease can be very serious. It can lead to blindness if it cannot be controlled or is not treated in time. It doesn't only occur in older people – it is very common in people with Type 2 diabetes who are of working age.

Causes

Diabetic eye disease (also known as retinopathy) occurs when

tiny blood vessels in the eye are damaged. This is often a result of poor control of blood glucose (sugar), and blood pressure levels.

Management

You will need to monitor your blood glucose levels regularly as discussed with your diabetes care team.

If you have been prescribed medication for your blood glucose or high blood pressure, it is important that you take this according to the instructions.

Each time you visit your healthcare provider your blood pressure may be checked, as blood pressure is linked with pressure in your eyes (glaucoma).

Prevention

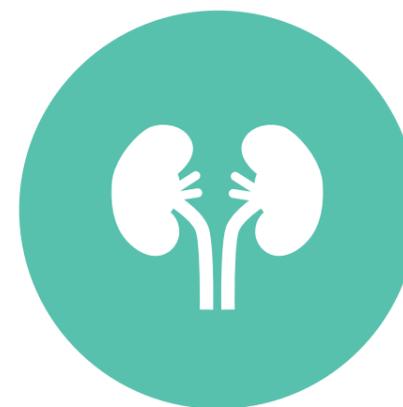
Controlling your blood glucose (sugar) and blood pressure levels will reduce your risk of developing eye disease.

It is important that you have your eyes photographed for retinopathy every year to check for signs of eye disease, so that action can be taken to help reduce your symptoms.

If you do have signs of eye disease, you may be checked more frequently. Eye drops will be put into your eyes to dilate/enlarge the pupils. The eye drops may sting and affect your vision for a few hours, so:

- Do not drive to the appointment
- Wear sunglasses after the test if it is a sunny day
- Ask a friend or relative to go with you if you are unsteady on your feet

In addition to your annual eye check you may also need to have your eyesight tested each year. This will be carried out at your optician's and will assess your near and distant vision, and may include a test for glaucoma.



...your kidneys: nephropathy

The longer you have Type 2 diabetes the more likely you are to develop kidney damage (also known as nephropathy). Over time,

Type 2 diabetes can damage the small blood vessels in the kidneys, which means they become less efficient at filtering waste products. A sign of this is protein leaking into the urine. This is very hard to identify, and your nurse should test your urine at least annually. However, if you have signs of kidney disease this will be checked much more frequently.

Kidney damage increases your risk of coronary heart disease and stroke. Well controlled blood glucose levels and normal blood pressure can help slow down the progression of kidney disease. Smoking can contribute to the worsening of kidney disease.

Prevention

Working to control your blood pressure is a key part of looking after your kidneys. You will also need to think about the dietary and physical activity recommendations made by your nurse, doctor or dietician.

Controlling your blood glucose and blood pressure levels will reduce your risk of developing kidney disease or may help to stop your kidney disease becoming worse.



Learn the lingo

Jargon buster

A lot of technical and medical terms are used in the management of diabetes, either by healthcare professionals who have forgotten that the rest of us don't have medical degrees, or when there just isn't any other word to describe something. Here's our handy guide to some of the commonly used terms you may encounter – you can always ask your diabetes care team to explain something further.

A_{1c}

The simple name for the HbA_{1c} test. This used to be measured as a % but is now mmol/mol.

Albumin

A blood protein that can leak into the urine. If it's there, it can be a sign of kidney problems.

Angina

A condition caused by problems with the arteries carrying blood to the heart; the person has short periods of chest pain and a feeling of constriction or tightening.

Basal insulin

The background insulin needed to control the normal levels of glucose in the blood between meals and at night.

Beta blockers

A class of drugs which reduce high blood pressure.

Blood glucose levels

The amount or concentration of glucose (sugar) in the blood. UK measurement is millimoles per litre (mmol/l). US measurement is milligrams per decilitre (mg/dl). 1 mmol/l=18 mg/dl.

Blood glucose meters

Electronic devices which can measure your blood glucose levels.

Body Mass Index (BMI)

A measure of a person's weight in relation to their height, showing if they are overweight or underweight. (weight/height).

Brittle diabetes

Diabetes which is very unstable with swings in blood glucose levels from very high to low.

Carbohydrate foods

A class of food which comprises starches and sugars and is made readily available by the body for energy. Found mainly in plant foods for example rice, bread, potatoes, pasta, dried beans.

Chiropodist

A podiatrist: a health professional that looks after people's feet.

Cholesterol

A fat-like material found in all animal tissue. Diets rich in fat may increase the amount of cholesterol in the blood. Cholesterol is known to speed up the blocking of the arteries in the heart.

Constipation

A reduction in bowel movements. Symptoms include having less than 3 bowel movements a week, straining and pain when you have a bowel movement, and hard lumpy stools.

Diabetes mellitus

A chronic condition where blood glucose levels are higher than normal.

Diabetes (gestational)

Diabetes occurring in pregnancy. Blood glucose levels usually return to normal after birth.

Diabetes Specialist Nurse (DSN)

A nurse who works exclusively with people living with diabetes.

Diabetologist

A doctor who has specialist knowledge about diabetes and its management.

Dietician

A health professional that has specialist knowledge about nutrition and the effects of different foods and drinks on the body.

Dilated eyes

Eyes which have had special drops put in them to make the pupil bigger so that the eyes can be examined.

Erectile dysfunction (impotence)

Where a man cannot have sex because he cannot get or keep a full erection.

Fibre

Fibre is the indigestible part of food. Fibre absorbs a lot of water and ensures faeces are soft and easy to pass out of the body. Good sources of fibre are wholegrain cereals, e.g. wheat, rice, oats, wholemeal bread and breakfast cereals. There is also some fibre in fruit and vegetables, especially in the skin.

Fructose

A sugar occurring naturally in fruit and honey. It does not require insulin for its metabolism, so is often used as a sweetener in diabetic foods.

Fundoscopy

An examination of the back of the eyes (retina).

Gastroparesis

Where the stomach doesn't empty properly into the intestine.

Glucose

A form of sugar made by the digestion of carbohydrates. It is absorbed into the blood stream, where it circulates and is used for energy.

Glucagon

A hormone produced in the pancreas. It causes a rise in blood glucose by freeing glycogen from the liver. It is available as injections for treating hypoglycaemia.

Glycogen

A carbohydrate which is stored in the liver. It is also known as animal starch.

Glycaemic index

A measure of how quickly a food is broken down into sugar that enters the blood.

HbA_{1c} test

A blood test that gives an indication of how well your blood sugar level has been controlled over the previous 6 weeks. It measures the amount of glucose attached to the haemoglobin in your blood.

Healthy digestion

When food has been eaten, it must be broken down in the body by the process of digestion so that it can be absorbed into the blood stream. The whole process takes place in the digestive system which begins at the mouth and ends at the anus.

Heart attack

When part of the heart is permanently damaged because one of the heart arteries is blocked and blood has been unable to get through to the heart.

Hyperglycaemic (Hyper)

Abnormally high blood glucose levels, where the body is unable to remove and change the glucose to energy.

Hypertension

Also known as high blood pressure, diagnosed when blood pressure readings are consistently 140/90 mmHg or higher.

Hypoglycaemic (Hypo)

Abnormally low blood glucose levels. Patients usually experience symptoms when blood glucose levels drop below 4 mmol/l.

Insulin

Hormone produced by the pancreas which is essential for regulating the levels of sugar in the blood.

Insulin analogue

A synthetic form of insulin manufactured to be similar to human insulin, but with different characteristics that can make it shorter acting (for mealtime use) or longer acting (as a background insulin).

Insulin resistance

In Type 2 diabetes the body produces some insulin but the body's cells are unable to use it efficiently.

Ketoacidosis

A condition where a person has raised blood glucose levels and is dehydrated so that metabolic acidosis develops (where the body's natural acid-base balance becomes disturbed).

Ketones

Ketones are the acid breakdown products of fats in the body.

Minerals

The body needs minerals to grow and control body processes e.g. transmission of nerve impulses. Minerals also form an essential part of body fluids. Some minerals are required in relatively large amounts e.g. calcium, iron, sulphur, phosphorus, potassium and chlorine. Others are required in small amounts e.g. iodine, manganese, zinc and fluoride.

Monounsaturated oils

Fats may either be saturated or unsaturated. Monounsaturated fatty acids are found in most animals and plant fats and oils, especially olive oil.

Multidisciplinary team

A team of different types of healthcare professionals who work together to make sure that people have the care they need, at the time they need it; for diabetes, these are known as diabetes care teams.

Nephrologist

A doctor who has specialised in diagnosing and treating kidney conditions.

Nephropathy

Damage to the kidneys.

Neuropathy

Damage to the nerves.

Nicotine replacement therapies

A substitute for nicotine, an addictive substance contained in cigarettes. They can take the form of patches, chewing gum, nasal sprays or inhalers.

Ophthalmologist

A doctor who has specialised in diagnosing and treating eye conditions.

Podiatrist

A health professional that looks after people's feet.

Pancreas

A gland behind the stomach which produces insulin and other hormones.

Retina

The light-sensitive area at the back of the eye.

Retinopathy

Damage to the back of the eye (retina).

Saturated fats

Saturated fats are predominantly found in fats that are solid at room temperature e.g. animal fats.

Smoking cessation clinics

A clinic led by a trained advisor to help people find ways to stop smoking.

Stroke

Where the blood stops getting through to an area of the brain, which may result in loss of function in part of the body.

Thrush

A fungal infection. It produces creamy white patches and extreme itching and soreness, usually in the genital area or the mouth. Repeated attacks may be triggered by excessively high glucose levels in the urine.

Triglyceride

A component of fat in the blood. Higher than normal levels are associated with an increased risk of heart disease, strokes and other circulatory diseases.

Ulcer

An open sore that becomes red and painful (inflamed); in diabetes, one of the aims is to stop ulcers from developing on the feet.

Vitamins

A group of different chemical substances. The body requires only small amounts of each vitamin but as it cannot make most of them itself they must be obtained from food. Vitamins are needed to help the body grow, to maintain the body, and to control metabolic reactions in cells.

Your diabetes care team:

GP:	
Diabetes Nurse:	
Diabetologist:	
Podiatrist:	
Optician:	
Dietician:	

You may also phone **111 (NHS 111 Service, England; NHS 24, Scotland)** for advice, but the adviser answering your call will not have detailed knowledge about you. They will, however, be able to give you general advice or direct you to further help if necessary. If you live in Wales; call **NHS Direct Wales (0845 46 47)**.

