LIVINGWELL WITH TYPE 2 DIABETES







Keeping you informed – Connecting with your peers – Advocating for you

Diabetes Ireland is the national charity dedicated to providing support, information and education for people living with diabetes, and their families. We advocate on behalf of those living with diabetes for improvements in diabetes services nationwide. Diabetes Ireland promote Health initiatives, Diabetes Awareness programmes and support Irish and International research.

Become a member of Diabetes Ireland today Phone 01 8428118 or email info@diabetes.ie or see www.diabetes.ie Enable us to continue to provide support

Support via our diabetes helpline. Access to	Access to a wide range of diabetes information leaflets and our magazine "Diabetes Ireland". Online support and information via www.diabetes.ie	We co- ordinate national and local awareness campaigns about symptoms of Type 1 diabetes, and risk factors for developing Type 2 diabetes.
Accoss to		
community-based health education conferences, structured education, and support programmes.	Support for children with diabetes and their families via our Sweet pea Kidz Club, adolescent adventure activities, family weekends and parent support groups.	Access to educational webinars and online programmes with practical information for people and families living with diabetes.
We promote health initiatives including: schools awareness, workplace awareness, early detection and prevention initiatives.	Access to affordable direct professional healthcare chiropody & podiatry (foot care) and counselling services at our Diabetes Care Centres.	We support Irish and International research.

Pharmaceuticals Ireland Ltd. A. Menarini have no input in to the content of this booklet.



The content of this information booklet was reviewed & revised (2024) by the Diabetes Ireland healthcare professional team. The information is correct at the time of going to print.

Introduction

We understand that receiving a diagnosis of type 2 diabetes can be difficult, we understand that there will be lots of information to take in and this may seem confusing.

The aim of this booklet is to help and support you by giving you the key information that you require to start learning how to live well with type 2 diabetes and to stay well.

For your convenience the booklet has been divided into **two** sections, the first section is the main information that is needed for people who are newly diagnosed with Type 2 diabetes. The second section is further information about the ongoing management of Type 2 diabetes on a daily basis. You can dip in and out of different sections of the booklet as they apply to you and it will hopefully answer any questions that you may have.

If you have any further questions. You can telephone your healthcare team or Diabetes Ireland on 01 842 8118.

Useful Contacts

Diabetic Retina Screen 1800 45 45 55 www.diabeticretinascreen.ie **National Smokers Ouitline** 1800 201 203 www.quit.ie

GP: _____ Out of hours GP: _____

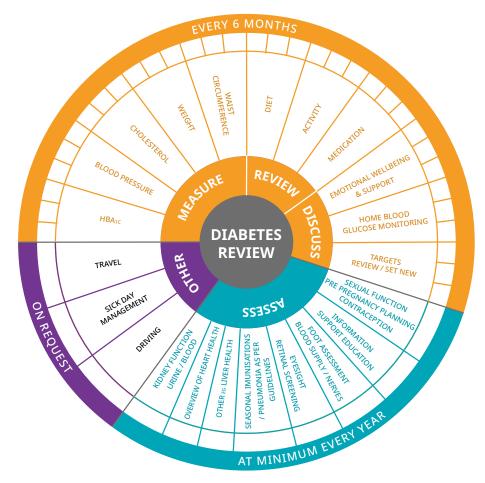
Hospital: ____

Next Appointment Date:



Your Diabetes Checklist

As well as managing your diabetes at home you should have check-ups to review your diabetes with your GP or with the diabetes team in the hospital. It is also important that everyone with diabetes has certain health checks regularly, e.g. eye & foot checks. Look at the centre point of the wheel below.



Moving out from the centre. We advise you to measure, review, assess and discuss various factors with your healthcare team and we suggest a time line for you to have these checks.

Record of results

Please discuss your personal targets with your doctor or nurse

Please discuss your personal targets with	Date	Date	Date	Date	Date
Details	Duc		Date	Date	Duic
Weight: (kg) Weight: (Stones)					
Height: (m) Height: (ft/inches)					
BMI: Recommended range: 20 – 24.9 Overweight: 25 – 29.9 Obese: 30 +					
Waist Circumference: Target no more than 80cm (32in) women Target no more than 95cm (37in) men					
Total Cholesterol: Target less than 4.5					
LDL Cholesterol: Target less than or equal to 2.6 (no CHD*) Target less than or equal to 1.8 (with CHD*) Non HDL Target less than or equal to 3.8					
HDL Cholesterol: Target greater than or equal to 1 for men Target greater than or equal to 1.3 for women					
Triglycerides: Target less than or equal to 1.7					
HbA1c: <i>Target less than 53 mmols/mol</i> or as agreed by your doctor					
Blood Pressure: <i>Target 140/80</i>					
Eye Review date (Retinascreen)					
Kidney (eGFR) Blood test					
Kidney ACR Urine test					
Other					
Other					
Foot review date					
*Coronary heart disease					

Personal plan

Ideas for changes –	Now, consider a	realistic time fra	me for this
Tick 1 or 2 - or write in an idea that might best suit your needs	Within the next week	Within the next month	Within the next 6 months
Think about my eating habits, and if I can make small healthy changes/and or food swops.			
Look at alcohol intake guidelines and look for added support if necessary.			
Assess my own level of physical activity, and what suits me.			
Look at supports available for stopping smoking.			
Take time to understand about my diabetes clinical reviews –, including heart, kidney, eye & foot health, and other issues relating to living well with Type 2 diabetes.			
Understand how medication works for me, discuss treatment plans with my doctor /nurse.			
Ask questions, take the opportunity to learn more & seek information.			

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What is Diabetes?

Diabetes is a condition where the amount of glucose (sugar) in the blood is too high. This happens when the body cannot use glucose properly due to a lack of insulin or not enough working insulin. Insulin is a hormone that acts like a key to open the doors of your cells to let glucose in. If glucose cannot get into the cells where it is needed for energy it builds up in the bloodstream. Over time this excess glucose can cause damage to blood vessels.

There are different types of diabetes:

Type 1 diabetes occurs when the body completely stops producing insulin. Type 1 diabetes develops most frequently in young people but can occur at any age, and is not preventable at present. Type 1 diabetes is managed with insulin injections or by using an insulin pump, along with healthy eating and regular physical activity. **Type 2 diabetes** occurs when the body stops producing enough insulin, or the produced insulin does not work properly (insulin resistance). Type 2 diabetes is managed by healthy eating, regular physical activity and medication which may include injections.

Pre-diabetes occurs when blood glucose levels are higher than normal but not high enough to be Type 2 diabetes. Healthy eating and regular physical activity can help to delay Type 2 diabetes. A person with pre-diabetes should have annual blood tests to check for Type 2 diabetes.

Gestational diabetes is when diabetes occurs during pregnancy. Gestational diabetes usually only lasts for the pregnancy but the mother has an increased risk of developing Type 2 diabetes in the future. A woman who has had gestational diabetes should have yearly blood tests to check for Type 2 diabetes. To reduce the risk of Type 2 diabetes one should follow a healthy diet, exercise regularly and avoid weight gain.

Who is in your Diabetes Team?

General Practitioner (GP): Your GP will play a central role in monitoring your diabetes and prescribing treatment.

Practice Nurse: These nurses are based in your local GP surgery and will provide your diabetes care. This includes taking regular blood tests. Monitoring blood pressure, reviewing your home blood glucose test results. Doing a foot assessment and providing general diabetes education.

Diabetes Nurse Specialist: These nurses have expertise in diabetes management and you may be invited to see them for a review of your diabetes management. They may visit your GP surgery and provide diabetes clinics from time to time. They also work in diabetes clinics in the hospital setting.

Dietitian: A dietitian can work with you to assess your diet and advise on healthy eating to help manage your diabetes. They can be based in the community or the hospital or you may have access through attending a diabetes structured education programme e.g. CODE, DESMOND or DISCOVER DIABETES. **Podiatrist:** Podiatrists diagnose and treat foot problems. They can also carry out a foot assessment and advise you about footwear. You may be referred to one by your GP or practice nurse or if you are concerned about a potential foot problem you can arrange a private appointment yourself.

Ophthalmologists are doctors with specialist training in conditions that affect the eye. If a problem is identified during routine eye screening (diabetic retina screen) you may be referred to an ophthalmologist for further assessment and treatment.

Pharmacists dispense medications that are prescribed by your GP. They can advise on how to take your medications and inform you of the common side effects. They may also give you general health promotion information and advice.

Diabetes Endocrinologist/

Diabetologist: A consultant who specialises in diabetes. Your GP may refer you to the diabetes clinic in the hospital where you will be under the care of this consultant.

Counsellor/Psychotherapist may help you to cope with the impact that diabetes has on your life. If necessary your GP can refer you.



HSE Enhanced Community Care Programme

The HSE'S Enhanced Community Care Programme has allowed for the development of Specialist Community Hubs to support the GP in managing your diabetes care. Your GP service may refer you to your local hub, if it is deemed necessary, for further assessment and treatment by a specialist diabetes team. On completion of your assessment and treatment you will be referred back to your GP.

Type 2 Diabetes Risk Factors

The following are some things that increase the risk of Type 2 diabetes developing:

- Type 2 diabetes may be in the family
- As one gets older the body may not produce insulin as efficiently as it once did
- Carry extra weight (but not always) particularly around your waist
- Ethnicity
- Not taking enough regular physical activity
- Having had gestational diabetes or a baby weighing over 4.1kgs (10lbs)
- Having to take steroids (steroids cause insulin resistance)
- Having high blood pressure or high cholesterol (often conditions that accompany Type 2 diabetes)
- Polycystic Ovary Syndrome (PCOS).

Sometimes there is no obvious reason why people develop Type 2 diabetes.

Family History

Having a family history of Type 2 diabetes increases a persons risk of developing the condition, so you should encourage your family (siblings and adult children) to get checked for diabetes with their GP. They can reduce the chances of developing Type 2 diabetes by adopting a healthy lifestyle i.e. healthy eating, regular physical activity and maintaining a weight that is appropriate for their height.



Signs and Symptoms

Before you were diagnosed with diabetes you may have experienced some (or none) of the following signs and symptoms:

- Always being thirsty or having a dry mouth
- Needing to pass urine very frequently (even during the night)
- Feeling tired all the time
- Having frequent infections
- Slow healing sores or cuts
- Genital irritation or thrush
- Blurred vision
- Unexplained weight loss
- Numbness, pain or tingling in hands or feet (often worse at night).

If you have diabetes and you still experience the above signs and symptoms you should contact your GP.

Your blood glucose levels may be high and your treatment for diabetes (medications) may need to be adjusted.

Diabetes and Emotional Wellbeing

Type 2 diabetes self-management can be demanding and complex.

Having a diagnosis of Type 2 diabetes may have an emotional impact too.

There is evidence linking low mood and depression to type 2 diabetes, along with concerns too around worry, stigma, shock or guilt.

These feelings are normal. Talking about how you are feeling may be helpful, or speak with family, friends, GP or nurse and they will help provide support.

Diabetes Ireland continue to be dedicated to providing support and information, see https://www.diabetes.ie/type-2-diabetes-support-programmes/ and also HSE Living Well Programme information on https://www.hse.ie/eng/health/hl/selfmanagement/living-well-programme/living-well-programme.html

Counselling Service

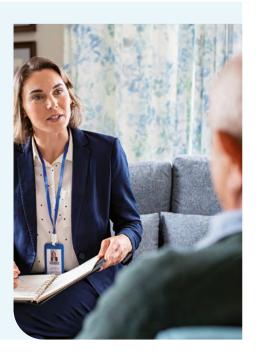
If you are finding it difficult to cope with your diagnosis of diabetes or are feeling depressed or anxious your GP may refer you to Counselling Services in Primary Care (CIPC).

Diabetes Ireland also provides a counselling service.

For queries or to make an appointment please call:

01 - 842 8118 or email: info@diabetes.ie

All enquiries will be dealt with in confidence.



Diabetes Self Management

Many things you do on a daily basis will affect your blood glucose levels, so it is important that you take an active part in the management of your diabetes.

Before you developed diabetes your pancreas kept your blood glucose levels within the normal range by producing the right amount of insulin at the right time. Now, you must help your body do what it once did automatically.

This includes:

- Eating a healthy diet
- Doing regular physical activity
- Aiming for a healthy weight for your height
- Taking medication if prescribed
- Checking your blood glucose levels if advised to do so.

Change isn't easy but you will not be alone. Your diabetes care team will support and guide you to maintain the best possible blood glucose control.

It takes time to learn new behaviours, to understand them, practice them and turn them into new habits.





Healthy Eating for Type 2 Diabetes

The following healthy eating guidelines are recommended by the Department of Health. When you have Type 2 diabetes no special foods or complicated diets are needed.

Healthy eating suggestions:

- Eat regular meals
- Include high fibre carbohydrate foods
- Be aware of serving sizes
- Have 5-7 servings of a mix of fruit and vegetables a day
- Have oily fish twice a week
- Reduce fat intake especially saturated fat
- Have sweet and sugary foods as occasional treats only
- Reduce your salt intake
- Limit your alcohol intake.

The information provided in this book is for people with type 2 diabetes without other complications, and it relates to making healthy food choices. If you have CKD (Chronic Kidney Disease) - or other conditions +/-dietary issues - it is important to follow appropriate advice individual to your requirements, we recommend that you consult with a dietitian for one-to-one advice.

Eat Regular Meals

Meals should be eaten at regular times each day e.g. breakfast, lunch and dinner. Snacking is usually not necessary but if you are hungry in between meals then a low fat snack is a good choice e.g. a serving of fruit or a diet yogurt.

Carbohydrates

This food group has the largest effect on blood glucose levels because when they are digested carbohydrates are broken down into glucose (sugar). Carbohydrates consist of sugars and starches and are an important energy source for the body and brain.

The following foods are examples of sources of carbohydrates:

Starchy	Sugary	Naturally
Carbohydrates	Carbohydrates	Occurring Sugars
 All types of breads, wraps and crackers Potatoes Cereals and Oats Pasta/ Rice/Noodles Yam/Plantain. 	• All sweet foods (cakes, chocolate, biscuits, jams, marmalades, non-diet fizzy drinks etc).	 Fruit and fruit juices Pulse vegetables (peas, beans, lentils) Dairy food (milk, yogurt).

It is a good idea to include starchy foods with each meal but serving size is important. With diabetes it is important to choose both the right amount and type of carbohydrates to minimise fluctuations in blood glucose levels. The healthiest kind of starchy foods are those that are high in fibre e.g. wholegrain bread, wholegrain cereals, whole wheat pasta and brown rice. An average adult needs 3 - 5 servings daily. The number of servings depends on age, size, activity levels and if you are male or female.

A single serving is:

- 2 thin slices of wholegrain bread or 1 pitta pocket
- 3 crackers or crispbreads
- 2 Weetabix* or oat biscuit cereal
- Half cup of unsweetened muesli
- One third cup of uncooked porridge oats
- One cup of high fibre flake type cereal
- 2 medium or 4 small potatoes
- One cup of cooked pasta, rice or noodles.

If you are overweight, you may need to reduce the number of carbohydrates you have per day. Speak to your diabetes team for more advice.

*is a trademark and is registered and protected by its respective owners.

Use a 200ml disposable cup as a guide to serving size.

Vegetables, salad and fruit - have a mix of 5 - 7 servings a day

As fruit contains natural sugar, allow intervals between eating it during the day. Salad and vegetables are low in natural sugar. Therefore try and have some at every meal.

A serving is:

- 1 medium sized apple or pear or similar sized fruit
- 1 small banana
- 10 grapes or 6 strawberries
- 2 small fruits 2 kiwis/2 mandarins/2 plums
- Half a cup of cooked vegetables- fresh or frozen
- A small glass (150mls) of unsweetened fruit juice, which if taken should be part of a meal
- A bowl of homemade vegetable soup
- A bowl of salad lettuce/tomato/cucumber etc.

Have oily fish twice weekly

Oily fish is rich in omega 3 fat that lowers the risk of heart disease. It reduces inflammation and helps lower cholesterol. It is recommended that people with Type 2 diabetes eat oily fish twice weekly. Oily fish includes salmon, sardines, kippers, mackerel, herring and trout.

Reduce your fat intake especially saturated fat

Having Type 2 diabetes increases the risk of heart disease but eating less fat in the diet can help reduce that risk. As well as eating less fat overall, it is important to eat the right types of fat.

Types of fat in our diet

Saturated fat is the fat in our diet that can raise cholesterol and increase the risk of a heart attack and stroke. **Unsaturated fat** in our diet may help to lower bad blood cholesterol (LDL). **Unsaturated fat** comes in two forms - mono-unsaturated and polyunsaturated.

Try to include more unsaturated fats instead of saturated fats in your diet

Colomated Fata	Unsaturated Fats			
Saturated Fats	Mono-unsaturated	Polyunsaturated		
• Butter, Lard, Cream.	Olive oil	Almonds		
 Fat on meat, red meat products. Processed meats: sausages, black and white pudding etc. Processed foods: tarts, pies take-away foods, crisps, chocolate, fudge, pastries. 	 Canola (rapeseed) oil Nuts such as peanuts - choose unsalted and mind serving size. 	 Cashew nuts Spreads labelled high in polyunsaturates. 		

Trans fats in our diet raise cholesterol. Trans fats are often found in hydrogenated margarines and some processed foods.

Suggestions to reduce your fat intake

- Use low fat versions of milk, cheese and yogurt
- Avoid frying food grill, bake, boil or steam instead
- Trim fat off meat and remove the skin off chicken
- Eat less processed foods.

Have sweet and sugary foods as occasional treats only

Sugar and sweet foods are high in calories and cause weight gain and high blood glucose levels, so should be limited. Chocolate, confectionery, biscuits and cakes should not be taken more than 1 - 2 times per week. If having a treat take a small serving.

Diabetic foods

Diabetes Ireland does not recommend foods labelled as •suitable for people with diabetes• such as biscuits, chocolate, sweets. jams etc. They are expensive, can be high in fat and if taken in large amounts, can cause diarrhoea.

Reduce your salt intake

Too much salt can contribute to high blood pressure and heart disease so you should reduce your salt intake as much as possible:

- Cut down on your intake of processed foods especially ready prepared meals and takeaways, packet soups, sauces and salted meats such as ham, bacon, sausages
- Instead of using salt when cooking or at the table, flavour your food with pepper, garlic, vinegar, curry powder, mustard, lemon juice, herbs and spices.

Alcohol in moderation

All adults should only drink alcohol in moderation, this is the same for people with diabetes. Alcohol is high in calories and causes weight gain.

Men should drink no more than 17 standard drinks a week and women no more than 11 standard drinks a week. Everyone should have at least 2-3 alcohol free days a week.

- 1 glass of beer = 1 standard drink
- 1 small glass of wine (100mls) = 1 standard drink
- 1 short measure e.g. vodka, whiskey (35mls) = 1 standard drink
- 1 small bottle of wine (187mls) = 2 standard drinks
- 1 bottle of wine = 7-10 standard drinks.

See https://www2.hse.ie/living-well/alcohol/health/physical-health/diabetes/ for more information.

If you are on medication that can potentially cause hypos (low blood glucose levels) (see page 24), drinking alcohol can increase your risk of a hypo. Therefore if you are having more than one alcoholic drink you will need to take a snack.



Tips for shopping

- Before you go, make a list and stick to it
- Don't go shopping on an empty stomach
- Give yourself time to read the labels and learn what is in food
- Keep a healthy balance in mind and check to see if your shopping basket reflects the right balance of the food you need to eat.

Reading food labels

Check how much fat, salt and sugar is in your food. The table below gives you some information on how to read a food label.

You may have noticed there is a traffic light label on the front of some of the products you buy. This tells you at a glance if the food has high, medium or low amounts of sugars, fat, saturates and salt.



- red means high
- amber means medium
- green means low

In short, the more green lights, the healthier the choice.

Everybody should choose foods which are lower in sugars, fats and salt. With diabetes it isn't just about looking at the amount of sugar on the label, you also need to be aware of the total carbohydrate in the foods that you choose.

*There are no agreed Irish traffic light guidelines. The table is intended to serve as a guide only.

Weight Management

Managing weight is an important part of managing your glucose levels, cholesterol and blood pressure as well as helping to improve how you function physically. There are many factors that contribute to weight gain and obesity is now understood to be a chronic relapsing condition.

Body weight is linked to family history and our genes as well as many other external factors such as the society we live in, work environments, sleeping patterns, stress levels along with many other influences which can make losing weight complicated and challenging.



For further information see https://www.hse.ie/eng/ about/who/cspd/ncps/obesity/programme-resources/ hse-talking-about-weight-guide-final-6.pdf

Regardless of your weight, eating a healthy diet and living an active life will have a positive impact on your health. It is better to focus on health gains rather than focusing only on weight loss.

There are health benefits to losing 5 to 10% of your total body weight and maintaining that weight loss. This can reduce your risk of having a stroke, heart attack and weight loss helps with your chances of putting type 2 diabetes into remission.

Carrying extra weight around your waist can lead to insulin resistance. Reducing your waist circumference can help your body use insulin more efficiently to control your blood glucose levels.

Recommended waist circumference

- Women less than 32 inches or 80cms
- Men less than 37 inches or 95cms

Waist measurements are lower for people of certain ethnicities because of the link to higher risk for diabetes or heart disease.

If you are non-Caucasian discuss what your recommended waist measurement should be with your diabetes team.



Physical Activity

Taking regular physical activity is a very important part of diabetes management.

There are many benefits of physical activity including:

- Increased feelings of well-being
- Gives you more energy
- Strengthens your heart and improves circulation
- Makes you feel more positive
- Helps you relax and sleep better at night
- Helps lower blood glucose, blood pressure and blood cholesterol levels
- Helps weight control
- · Keeps joints mobile.

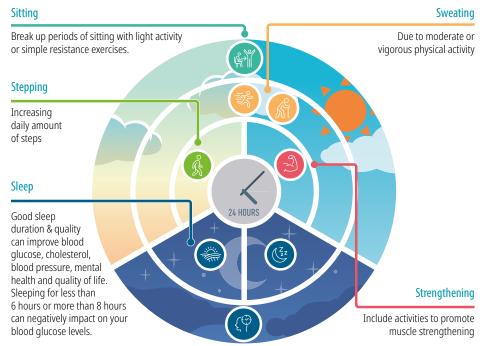
How much physical activity is recommended?

- The minimum requirement for physical activity to maintain health is 30 minutes of moderate activity five days a week
- 2. Moderate activity means being able to talk while doing the activity and not being out of breath or having pain
- 3. Remember your 30 minutes of physical activity is equally beneficial to health if it is spread out over the entire day, it can be multiples of 10-15 minutes throughout the day
- 4. If you are not doing much activity at present, check with your doctor first and aim to achieve this target gradually
- 5. Try activities that you will find enjoyable like dancing and gardening and ask a friend to join you for support
- It is also recommended to add activities which increase muscular strength, endurance and balance on two or more days of the week e.g. digging in the garden and carrying grocery bags are muscle strengthening exercises and yoga and Tai Chi are good balancing exercises
- 7. Start by setting short term realistic goals for physical activity. Doing some physical activity even less than the recommended level will provide some health benefits.



Importance of 24-Hour Physical Behaviours For Type 2 Diabetes

(EASD/ADA consensus report 2022)



Safety tips for physical activity:

- Gradually increase how much activity you do and how often you are active
- Wear clothes to suit weather e.g. rain coat if wet, reflective bands if dark, bicycle helmet if cycling
- Use shoes that are comfortable and will support your feet
- Check your feet afterwards to make sure there is no redness, blisters or hard skin forming
- Drink enough fluids to stay hydrated: don't wait until you get thirsty
- If you are on diabetes medication that leaves you at risk of a "hypo" (see page 24) monitor your blood glucose levels and carry some fast acting carbohydrate if doing strenuous or prolonged physical activity
- Stop any activity and seek medical guidance if you feel unwell.

Taking regular physical activity may not be possible for everyone. Check out the booklet 'Getting active for better health' on **hse.ie/wellbeing/exercising indoors** for chair based exercises.

Testing Blood Glucose Levels at Home

Blood glucose levels must be kept as close to normal as possible. In people without diabetes, blood glucose levels are normally between 4 and 7 mmol/l, but when a person has diabetes the levels can fluctuate out of this range due to many factors. (see page 23 re High and Low Glucose levels).

Blood glucose testing may be helpful for the day to day management of Type 2 diabetes therefore some people will be advised to check their blood glucose levels at home. This is done using a home blood glucose meter or in some cases a continuous glucose monitor.

Your doctor or nurse will explain what you need to do, and what your blood glucose results should be. You will be advised of how often and the best times to test by your doctor or nurse.

When checking your blood glucose levels using a meter you should:

- Wash your hands before testing as any food on your hands may affect the result
- Using the lancing device prick the side of your finger to obtain a drop of blood
- Use a different finger each time so one finger doesn't become sore
- Replace your blood testing meter every two years
- Never share your blood glucose testing equipment.

When to test	Range of blood glucose reading
Fasting or before meals	4-7 mmols*
2 hours after eating	<8 mmols*

*These targets are general recommendations but your diabetes team should help you set appropriate targets for you.

The HSE has set out recommendations for the number of blood glucose record testing strips they supply for people with Type 2 diabetes The allowance of strips is based on the medications that one is prescribed to manage their diabetes.

If necessary additional strips can be authorised by your diabetes team. There is no restriction of strips for those who require insulin to manage their diabetes.

Ask your pharmacist for further information or see www.diabetes.ie

Blood glucose record

Keeping a record of your blood glucose levels is a good way to monitor the impact of food, activity and medication and can help to guide your decision making when planning meals and physical activity. You can record these readings in a paper diary, or some glucose meters have apps for electronic records on smart phones. You may also record any information about things that you think may have impacted your glucose levels.

This record of your readings will also help your diabetes team to treat your diabetes more effectively.

HbA1c (Longer term test)

As part of your diabetes check-up you will have a blood test called a HbA1c. This test will indicate the pattern of your blood glucose levels over the previous 3 months. The general recommendation is to aim for a **HbA1c less than 53 mmol/mol** or as agreed by your doctor. It is important that you know what this result is and if it is within the recommended level for you. If it is above the recommended level, action should be taken such as eating a healthier diet and/or increasing the amount of physical activity you do. The doctor may also increase your diabetes medication to help improve your HbA1c levels as having a high HbA1c over a long time may increase your risk of developing diabetes complications.

The diagnosis of diabetes is initially made if the HbA1c is \ge 48 mmol/mol

The diagnosis of pre-diabetes is initially made if the HbA1c is between 42-47 mmol/mol

For people without diabetes the HbA1c is lower than 42 mmol/mol

You may have heard of the term **diabetes remission.** This is currently described as when the HbA1c level remains below 48 mmol/mol for at least 3 months, without the need for diabetes (glucose lowering) medication.



High blood glucose levels (Hyperglycaemia)

If blood glucose levels are consistently high in the short term it may cause you to feel unwell. Over long periods high blood glucose levels can cause complications of diabetes (see page 31).

High blood glucose levels can be due to:

- Forgetting or omitting to take your diabetes medication
- Eating more carbohydrate than usual
- Being less active than you should be
- Having an illness/stress/or infection
- Some medications such as steroids.

Signs and symptoms of high blood glucose (see signs and symptoms on page 9).

Treatment of high blood glucose levels:

- Don't panic. An occasional high blood glucose reading is not an emergency
- Try and identify a reason why blood glucose levels may be high
- Always recheck to establish a pattern and observe for improvements in readings
- If unwell with flu like symptoms or an infection, a medical check-up may be necessary to treat the illness
- For further information See Sick day management section page 26
- If your pattern of home blood glucose readings remain out of the recommended range you should discuss them with your doctor or nurse as your medication may need to be changed.

Tips to avoid high blood glucose levels

- Eat a healthy diet
- Be aware of serving sizes, particularly servings of carbohydrate
- Maintain physical activity levels
- Take medications as prescribed.

Low blood glucose levels (Hypoglycaemia or HYPO)

Not everyone with Type 2 diabetes is at risk of low blood glucose levels. Low blood glucose or hypos can be a side effect of some diabetes medications such as insulin injections and some tablets. Check with your GP, nurse or pharmacist to see if you are taking medications (either injections or tablets) that puts you at risk of low blood glucose levels.

Hypoglycaemia occurs when the blood glucose level drops under 4 mmol/l. Low blood glucose is often referred to as a 'hypo'.

If you are at risk of low blood glucose levels any of the following may cause a 'hypo':

- Missing a meal or a snack
- Delayed meals
- Not eating adequate carbohydrates
- Exercising more than normal
- Drinking alcohol
- Taking too much medications or if the dose of the medication is too high
- Being in a hot climate.

Warning signs of a hypo include any or a combination of the following symptoms:

- Weakness
- Hunger
- Shaking
- Feeling confused or dizzy
- Sweating.



Treatment of a hypo

1. If possible check your blood glucose level

- If it is less than 4 mmol/l treat it with some fast acting carbohydrate e.g. 4 - 5 glucose sweets, (Dextrose* or Lucozade* tablets] OR 150mls ordinary fizzy drink (not diet) or fruit juice. Brands of soft drinks may change their sugar content so check the labels regularly to be sure of the amount you are advised to take
- **3.** Recheck the blood glucose level after 15 minutes to ensure it has returned to normal. If it is still less than 4 mmol/l repeat step 2.
- **4.** Follow this with a snack such as a plain biscuit, a piece of bread or fruit or a meal containing carbohydrate if it is due.

If you are at risk of a hypo you should carry some fast acting carbohydrate with you i.e glucose sweets at all times. You should also carry identification e.g. in a wallet, or wear an identity bracelet stating you have diabetes.

Tips to avoid hypos include:

- Have regular meals
- Have a snack close at hand when exercising
- If having more than one alcohol drink, take a snack (only if at risk of a hypo)
- Always have quick acting carbohydrate i.e. glucose tablets or a sweet drink close by.

See page 35 for precautions to take while driving if you are on medications that leave you at risk of a hypo.

Some examples of 15g quick acting carbohydrate are

- LIFT* 60mls (one bottle) available on the LTI prescription scheme
- 150mls fizzy drink (non-diet)
- 150mls fruit juice
- 4 dextrose tablets



Brands of fizzy drink may change their sugar content so check the labels regularly to ensure you are getting the correct carbohydrate amount

*is a trademark and is registered and protected by its respective owners.



Section 2: Living Well with Diabetes

Sick Day Management

When the body is fighting illness it can cause blood glucose levels to rise even if you are eating less than usual. Symptoms of high blood glucose levels (see page 9) can cause dehydration and make you feel more unwell. Dehydration can also be made worse with a high temperature, vomiting or diarrhoea. If you check your own blood glucose levels at home, you may notice that when ill your readings are higher than normal. You are advised to treat the illness and contact your GP if your blood glucose readings remain high or you are not recovering.

At your diabetes appointments get advice about sick day management as it applies to your diabetes. Discuss with your diabetes team what to do in the event of illness, how to manage high blood glucose levels, when you should seek emergency assistance and who to contact if you need advice out of hours. (Have a list of phone numbers for both your GP and out of hours GP in a convenient place e.g. at the front of this booklet).

General guidelines during illness

Symptoms

Treat your symptoms and consult your pharmacist for advice on appropriate over the counter medication. Contact your GP if you feel like your symptoms are prolonged or getting worse.

Hydration

It's important to drink lots of fluids to prevent dehydration especially if you have vomiting or diarrhoea, sip gently through the day and aim for a least 2-3 litres over the course of the day.

Steroids

Some illness may require treatment with steroids. Steroid therapy may cause high blood glucose levels as they can work against the action of insulin. If you are prescribed steroids you should discuss with your diabetes team how best to manage your blood glucose levels. Your diabetes medication may need to be adjusted or changed temporarily.

Testing blood glucose levels

If you have a meter, you should check your glucose levels more often and seek medical advice, if your readings remain in double figures, you are very unwell and not sure what to do.

Hypos

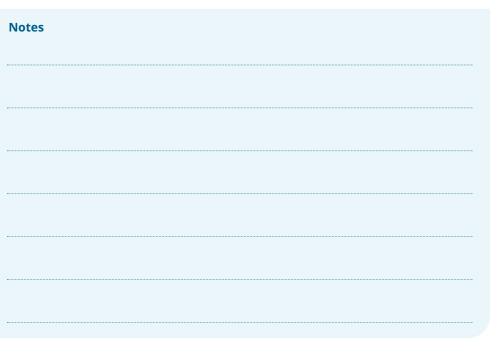
Eat a healthy balanced diet if possible. If you are on insulin or tablets that have the potential to cause hypos (low blood glucose level) and you are unable to eat, it is important to avoid hypos by taking carbohydrate in fluid form e.g. sip on a soft drink (not a diet version).

Medication

Some medication may need to be adjusted when you are unwell, especially if you are vomiting or have diarrhoea. Your GP, diabetes team or community pharmacist will advise you on this. For further information see **www2.hse.ie/conditions/type-2-diabetes/**

Vaccinations

It is recommended that people living with diabetes avail of the annual flu vaccine, the pneumococcal vaccine – (if appropriate for them following discussion with GP), and keep updated re COVID-19 vaccination guidance.



Type 2 Diabetes Medication

Healthy food choices and being active, as well as having as healthy a weight as is achievable for you are important for managing type 2 diabetes.

For some people, this plan alone may be recommended at first for managing your diabetes, for others - glucose lowering medications may need to be prescribed at the time of diagnosis, - or at a later stage if lifestyle changes are

not sufficient to maintain your blood glucose levels within a healthy range.

There are many categories of medication prescribed in the management of Type 2 diabetes and they may come in tablet form or as an injection.

Some medications

- help your own insulin work better
- others stimulate the pancreas to make insulin
- others delay the breakdown of insulin
- others reduce the amount of glucose produced by the liver
- others slow down absorption of glucose from the gut
- others increase the excretion of glucose through the kidneys.

You may be prescribed medication from two or three different categories depending on your body's need for support to manage blood glucose levels as well as for the protection effect on other organs such as heart and kidney.

Injectable therapies

Some people may be prescribed medication (not insulin) in the form of an injection, or require the addition of insulin injections as part of treatment.

If this treatment is recommended for you, your diabetes nurse or practice nurse will show you how to give yourself the injection and give you guidance about rotating your injection sites and disposing of sharps safely.

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- The name of your medication
- When is the best time to take it
- How much to take
- How it works in the body
- Possible side effects to look out for (especially if the medication puts you at risk of a hypo)
- Have an up to date list of your current medication in a wallet or, a photo of the list, or photo of the medication box on your phone, and bring this list with you when attending any healthcare appointment. Do not assume your health care team will have access to this information. See also www.safermeds.ie

See page 24 for information about **Hypoglycaemia** (low blood glucose) See page 35 for **Driving guidelines** for people taking medication for diabetes

Long term illness scheme (LTI)

Under the long-term illness scheme all people with diabetes regardless of income/circumstances are entitled to diabetes medication and blood glucose monitoring supplies free of charge. If you are on cholesterol lowering medication and blood pressure medication the cost of these are also covered under the scheme. A person with a medical card can also apply for Long Term Illness card (there will be no prescription charges for diabetes related items).



You will have to apply for the long term illness scheme and the application needs to be signed by a doctor.

Find out more at: https://www2.hse.ie/services/schemes-allowances/lti/

Planning a Pregnancy when you have Type 2 Diabetes

It is essential that you have good diabetes control prior to pregnancy. If you have type 2 diabetes and are thinking about becoming pregnant, it is essential that you speak with your diabetes team and be advised of how you can plan for a healthy pregnancy.

Before becoming pregnant you should:

- Use contraception until your diabetes team advises you it is safe to become pregnant
- You will be given stricter blood glucose target levels and will need to monitor your blood glucose levels more frequently
- You may need to change your medications if the ones you are taking are not safe to take in pregnancy, you may even need to start insulin injections.
- Pregnancy can put extra pressure on the small blood vessels at the back of the eye.
 Women with pre-existing Type 2 diabetes should have regular eye screening during pregnancy. For specific information on this see www.diabeticretinascreen.ie and speak with your health care team
- You will need to take Folic Acid 5mg daily which will need to be prescribed by your doctor.



Complications of Diabetes

Having above-target blood glucose levels over an extended period of time can cause damage to the blood vessels and nerve endings potentially leading to eye, kidney, foot problems and cardiovascular disease. Uncontrolled high blood pressure, high cholesterol and smoking can also increase the risk of these complications developing.

Eye health

Diabetic eye disease is also known as retinopathy. It occurs when tiny blood vessels in the lining (retina) at the back of the eye are damaged. Diabetic retinopathy can cause the blood vessels in the retina to leak and become blocked and damage your sight. Early stages of retinopathy will not affect your sight therefore it is essential that you attend for eye screening regularly.

At your eye screening appointment photographs are taken with a digital camera without touching your eye. The photographs are reviewed by an expert and you should get a written result within 6-8 weeks. If you have a result of no retinopathy in your previous 2 screenings, your next screening invitation will be 2 years from the time of your last screen.

Diabetic RetinaScreen is the National Diabetic Retinal Screening Programme that offers free, regular diabetic retinopathy screening to people with diabetes aged 12 years and older. For more information about Diabetic RetinaScreen see www.diabeticretinascreen.ie or speak to your GP. Diabetes Ireland strongly encourages everyone with diabetes to register with this programme.

Register for diabetic retina screening

To register, you can be referred by your GP, Nurse, dietitian or eye doctor. You can fill in a registration form online but it will need to be printed off and signed by your GP.

You will be asked to give your consent to be added to the diabetic retinopathy screening register. Once you've given your consent, you will be sent an invitation to attend a free screening appointment at your local screening centre.



Kidney health

Diabetic kidney disease is also known as nephropathy. The kidneys have many important functions such as cleaning and filtering the blood, getting rid of waste and water through the urine and controlling blood pressure. Over time high blood glucose levels can damage the small blood vessels in the kidneys causing them to work less efficiently.

In the early stages of diabetic nephropathy you will not experience symptoms or feel unwell, therefore, it is important to have your kidney function checked regularly. This is done by having a blood and urine test with your GP.



Urine test: One of the early signs of kidney damage is when the body leaks abnormal amounts of protein in the urine. A simple urine test known as ACR (Albumin creatinine ratio) can detect this. Ensure you bring your urine sample to your Diabetes check-up and discuss the results with your doctor or nurse.

Kidney blood test: A routine kidney blood test can help your doctor track your kidney function and alert them if there are any signs of decline. The blood test known as your GFR (glomerular filtration rate) is a measure of how well your kidneys are working.

Discuss your results with your doctor

Discuss your results with your doctor or nurse and ask what you can do to prevent or slow down the progression of kidney disease.

If any decline in your kidney function is detected, your GP or diabetes team will work with you to help manage your blood glucose and blood pressure to help protect your kidneys and prevent any further decline. The doctor may need to review your medication, order additional tests or refer you to a kidney specialist (Nephrologist) for further assessment and monitoring of your kidneys.

You should also receive a referral to a dietitian as you may need to adjust your diet.

Foot health

Prolonged above target blood glucose levels can cause damage to the nerves and the blood vessels that supply the feet, potentially leading to foot ulceration and in extreme cases amputation. Damage to the nerves (neuropathy) can cause symptoms such as tingling and numbness, not being able to feel pain or temperature as normal or burning and shooting pains. Narrowing of the blood vessels in the legs is called peripheral vascular disease (PVD) which can also be caused from prolonged high blood glucose levels. Everyone with diabetes should have an annual foot assessment by a healthcare professional which checks for problems related to circulation and sensation. The healthcare professional should advise of your risk of developing foot problems and also give instructions on the day-to-day care of your feet.

To prevent foot problems daily foot care is vital and should include:

- Examining your feet daily including in between the toes looking for any discolouration, broken or hard skin, or problem toenails
- Washing the feet in lukewarm water and drying thoroughly especially in between your toes
- Moisturise your feet but do not moisturise between your toes
- Wear clean cotton socks daily, ensuring they are not too tight
- Do not walk barefoot



- Examine footwear before putting it on to ensure that nothing will cause injury
- Footwear should provide support and be soft, cushioned and seamless with laces or a soft strap to fasten
- If minor cuts, cracks, blisters are found, clean with salt water or saline solution. Dry well and cover with a sterile dressing
- Do not use hot water bottles or sit too close to the fire or radiator in case of burns
- Corn plasters are not advisable for people with diabetes as they may burn the skin
- If due to a visual impairment or a physical disability, you are unable to do your own footcare, ask a family member to help
- Your doctor or podiatrist needs to be contacted without delay if any foot problems are noticed.

Heart health

For people living with Type 2 diabetes the prevalence of heart disease and Stroke is 2-4 times higher than people who do not have diabetes.

It is important as part of your routine diabetes care that you discuss your heart health with your Doctor or Nurse. Assessments will include blood pressure, cholesterol levels, and a blood test called NT-proBNP to ascertain Heart health and function. Your doctor may also advise further heart tests as appropriate for you e.g. ECG.

Your GP or Diabetes team will work with you to help manage your blood glucose levels, your blood pressure and cholesterol, and other risk factors. If necessary, your doctor may review your medication, order additional tests or refer you to a Heart specialist (Cardiologist) for further assessment.

Non-alcoholic fatty liver disease (NAFLD)

NAFLD is caused by excess fat around the liver. Type 2 diabetes, obesity, high blood pressure and high cholesterol increase the risk of this condition and if left untreated it can lead to chronic liver disease. NAFLD can be prevented or reversed through healthy eating, exercise and weight reduction. Speak with your doctor for any advice that may apply to you.

Erectile dysfunction

Many men have problems getting or maintaining an erection at some point in their lives. This can happen for a variety of reasons including stress, tiredness or alcohol. It may also be due to poor blood glucose control, nerve or circulation damage or the side effects of certain medications.

It can be a very difficult subject to talk about but don't worry as your doctor will have heard this problem many times before. There are many effective treatments available for erectile dysfunction. Talk to your doctor or nurse about it.



Having diabetes is not an issue for driving but if you are taking medications that put you at risk of hypoglycaemia you must take extra precautions and you must inform the National Driver Licence Service when applying for or renewing your licence.

Check with your pharmacist/ diabetes team if the medications that you are on put you at risk of hypoglycaemia e.g Insulin or sulphonylureas.

NDLS contact: Tel 0818 700 800 / +353 21 462 4810 website: www.ndls.ie RSA (Road Safety Authority) email: medicalfitness@rsa.ie see also https://www.rsa.ie/services/licensed-drivers/medical-fitness You must also inform your motor insurance company that you have diabetes. Drivers at risk of hypoglycaemia are advised to take the following precautions:

- You must always carry your glucose meter and blood glucose strips with you
- Check your blood glucose before you drive and stop every two hours to retest
- If your blood glucose is 5.0 mmol/l or less, take a snack. If it is less than 4.0 mmol/l or you feel hypo, do not drive and take appropriate action to correct your blood glucose level, and wait 45 minutes before driving
- If hypoglycaemia develops while driving, stop the vehicle as soon as is safe to do so. You must switch off the engine, remove the keys from the ignition and move from the driver's seat. You must not start driving until 45 minutes after blood glucose has returned to normal. It takes up to 45 minutes for the brain to recover fully



- Always keep an emergency supply of fast-acting carbohydrate such as glucose tablets within easy reach in the vehicle
- You should carry personal identification to show that you have diabetes in case of injury in a road traffic accident
- Particular care should be taken during times of changes in medication or insulin regimens, and during changes of lifestyle, exercise, travel and pregnancy
- You must take regular meals, snacks and rest periods on long journeys
- Always avoid alcohol.

Inform yourself of additional guidelines relating to HGV/bus or truck (class 2) applications.

More information on driving with diabetes is available from Diabetes Ireland. Telephone **01-8428118** or see **www.diabetes.ie** or **www.rsa.ie**

Other Lifestyle Considerations

Smoking

Smoking is not good for anyones health but smoking when you have diabetes increases your chances of developing the complications of diabetes. There are lots of supports available for those wishing to give up smoking. Take the first step by discussing it with your GP or contacting **The National Smokers Quitline** on **1800 201203** or see www.quit.ie



Dental

If you have diabetes, good dental care is important as diabetes puts teeth and gums more at risk. As for everyone regular dental check ups are advised. For more information on diabetes and oral health tips see **www.diabetes.ie**

Employment

Under the Employment Equality Act, an employer cannot use a medical condition to discriminate against you. You are legally required however, if asked, to inform any potential employer of any long term condition during the recruitment process.

If you are already in employment your colleagues may not know about diabetes. You can give them a simple explanation about the effects of diabetes and how it can be managed. If you are at risk of a hypo you may need to inform them of the signs and symptoms of a hypo and how to treat it.



Travel

- Plan well, and in advance
- It is advisable to carry a letter from your doctor stating you have diabetes and are carrying glucose testing equipment and /or medication for this reason
- Be familiar with airport guidance if using wearable technologies/glucose sensor
- Bring a current prescription, and spare medication/ strips in its original box in the event of unforeseen circumstances/ delays etc
- Carry identification if you are taking medication that may put you at risk of hypoglycaemia
- Ensure your travel insurance covers diabetes related issues, and for European travel carry a European Health Insurance Card (EHIC)
- For further travel info tips see **www.diabetes.ie** or speak with your healthcare team.

Medical card/GP visit card

Medical cards are issued by the Health Service Executive (HSE) and entitle a person to free GP care and hospital visits free of charge. Medical cards are means tested which means your income is assessed as part of the application process. If you do not qualify for a medical card on income grounds you may qualify for a GP visit card. This entitles you to visit a participating family doctor for free. You can apply online on www.medicalcard.ie or get an application form from participating GP's, local health centres or contact: 0818 224478.





Tax relief and chiropody/podiatry services

Non-medical card holders may be able to claim tax relief on health services such as podiatry care if you are required to attend as part of medical treatment i.e. your doctor directs you to attend. You may also be able to claim tax relief on any doctor's visits and prescription drugs associated with this care.

For further information Diabetes Ireland provides a wide range of foot care services in their Care Centre in **Dublin** and **Cork**.

For queries or to make an appointment please telephone:

Dublin (01) 842 8118 or email carecentre@diabetes.ie

Cork on (021) 427 4229 or email corkcarecentre@diabetes.ie

Carers Allowance

Carers allowance is a payment to people on low incomes who are looking after a person who needs support because of age, disability or illness. If you qualify for the carers allowance you may also qualify for free household benefits or a free travel pass. Application forms are available through local social welfare offices or can be downloaded from the citizens information website www. citizensinformation.ie

For further information on your entitlements see http://www.diabetes.ie/ and www.welfare.ie



Diabetes Appointments - What to Expect?

As well as managing your diabetes at home you should have check-ups to review your diabetes with your GP or with the diabetes team in the hospital. Complications of diabetes do not always cause symptoms. Therefore it is essential that everyone with diabetes has certain health checks yearly.

DIABETES REVIEW

See the diabetes checklist on page 2 for information on what healthchecks you should be having as part of your diabetes appointments.

How to prepare for your diabetes appointments:

- Bring a list of your current medications
- If you do blood glucose monitoring at home bring a record of your readings and your meter
- Write down any questions that you may have.

You should contact your healthcare professional outside routine appointments:

- If your blood glucose levels are consistently outside target range
- If you are not tolerating the medication that has been prescribed for you
- If you have a foot problem and especially if your foot is red, hot, swollen, painful as these are all signs of infection and medical attention is needed urgently
- If you discover you are pregnant or wish to plan for pregnancy.

Education

Group education courses

There are group education courses available for people with Type 2 diabetes to help you learn more about diabetes and feel more confident about managing the condition. The available courses in Ireland are **CODE**, **DESMOND** and **Discover Diabetes.** Find out from your doctor or nurse what is available locally.

Courses may be delivered online or face to face.

Further Information & Educational resources

You can learn more about living with Type 2 diabetes on the Diabetes Ireland website **www.diabetes.ie.** There are additional patient information booklets on the Diabetes Ireland website available to download and read.

The Diabetes SMART programme is a free interactive online education course developed by Diabetes Ireland, for people diagnosed with Type 2 diabetes. It contains six interactive modules, covering topics that explain what diabetes is, understanding the key medical information such as blood glucose levels, managing illness, and providing lots of tips on healthy eating and getting active.

> HSE Diabetes Information HSE Live on 1850 24 1850 https://www2.hse.ie/conditions/type-2-diabetes/ www.safefood.eu www.indi.ie (INDI) Irish Nutrition and Dietetic Institute www.healthyireland.ie www.getirelandwalking.ie www.quit.ie 1800 201 203



The Diabetes Ireland Care Centres are purpose-built units in Santry, Dublin and Mary Street, Cork city. Our team of practitioners have expertise in the needs of People with Diabetes.

The Services available at our care centres:

- Podiatry, Orthotics and Footcare services
- Diabetic Retinopathy Screening
- Counselling Services

Our Centres are also a fantastic resource for people seeking support and information on the many facets of diabetes, for both people who may be recently diagnosed and for those living with the condition for many years, who may need some additional support to manage their condition more effectively.



Santry Reception

Podiatry Room



Suggestions to help Manage Your Diabetes

- Eat a healthy balanced diet; be aware of carbohydrate foods and serving sizes
- Aim to achieve or maintain a healthy weight and waistline
- Get to as healthy a weight and waist size as is achievable for you Consider if you need to change any of your 24-hour physical activity behaviours
- Don't smoke
- Take your medication as prescribed and discuss how it is suiting you, with your doctor
- Monitor your blood glucose levels at home if advised to do so by your doctor or nurse. Know the target range of your blood glucose levels and what to do if they are outside of this range
- Be aware of how to look after your feet and check them daily. Ensure you have a foot assessment by a healthcare professional at least once a year
- Attend your eye screening appointments yearly or as advised
- Attend your appointments for review of your diabetes with your GP or diabetes team. Always reschedule appointments if you have to cancel them.







Notes



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LIVINGwell with TYPE 2 DIABETES



Our helpline is open Monday – Friday, 9am – 5pm Helpline: 01 842 8118



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