

Diabetes Prevention

A guide to healthy living



What is type 2 diabetes?

Type 2 diabetes is a condition that causes the level of glucose (sugar) in the blood to become higher than normal.

What is pre-diabetes?

Pre-diabetes occurs when your blood glucose (sugar) levels are higher than normal but not high enough to be diagnosed with type 2 diabetes. It has been proven that making some lifestyle changes can prevent or delay type 2 diabetes. These changes include:

- eating well
- being active
- losing weight if you need to

This booklet will help you to build good habits that can prevent or delay type 2 diabetes. This booklet gives you practical advice to improve your day-to-day habits for healthy living. It has four parts.

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If you need help understanding some parts of this booklet ask your doctor, practice nurse, dietitian or other trusted health professional to help you. We have marked the more difficult parts with the word 'Ask' in a speech bubble.



Know your risk

People with pre-diabetes have a high risk of developing type 2 diabetes, heart disease and stroke. You are at risk of pre-diabetes if you:

- are overweight
- are 45 years or older
- have a parent, brother or sister with type 2 diabetes
- are physically inactive and sit for long periods
- are of a higher risk ethnicity like:
 - South Asian
 - Black African
 - African Caribbean
 - Ethnic South and Central American
- have ever had gestational diabetes (diabetes during pregnancy).

If you think you are at risk speak to your doctor or practice nurse.

A simple blood test called HbA1c can confirm if you have diabetes or pre-diabetes. This blood test can be done every year to monitor your risk. The table below explains the blood test results.

Ask

Your HbA1c test numbers	What it means
Less than 42	You do not have diabetes
42-47	You have pre-diabetes
48 or more	You have type 2 diabetes

Help and support

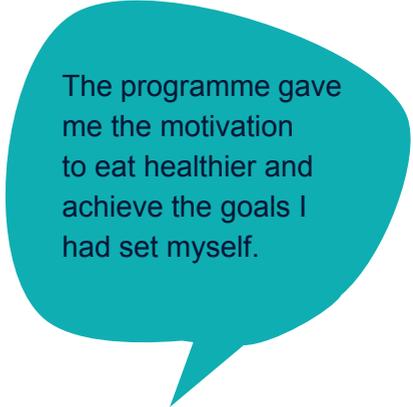
There is lots of support available.

Speak to a trusted health professional and ask for help if you need it. The National Diabetes Prevention Programme offers 12 months of support to help you with behaviour and lifestyle changes to reduce your diabetes risk. You may be eligible to join, speak to your doctor about a referral.

This is what some of those who have taken part in the programme have said:



I would highly recommend this programme to anyone with concerns about pre-diabetes.



The programme gave me the motivation to eat healthier and achieve the goals I had set myself.

Remember! Small changes make a big difference

More information is available at www.hse.ie/pre-diabetes, and you can find further supports at the back of this booklet.

Planning a pregnancy

Things to do if you have:

- pre-diabetes and are planning a pregnancy
- had gestational diabetes in the past.

Speak to your doctor

Before becoming pregnant, ask your doctor or practice nurse to do a blood test to see if you have type 2 diabetes.

Take folic acid

Begin to take 400ug of folic acid daily for at least 3 months before becoming pregnant. You should also ask your doctor if you need a prescription for a higher dose (5mg) of folic acid.

If you have pre-diabetes, tell the hospital

When you become pregnant tell your maternity hospital straight away that you have pre-diabetes. They will help you to manage your pre-diabetes during your pregnancy.



1 Eating for Health

To reduce your risk of type 2 diabetes choose foods that are nutritious and healthy. Have regular balanced meals with lots of variety. Eat a wide variety of:

- vegetables
- fruit
- whole grains
- low-fat dairy products
- lean meats
- oily fish
- nuts
- seeds
- healthy oils like olive oil and rapeseed oil

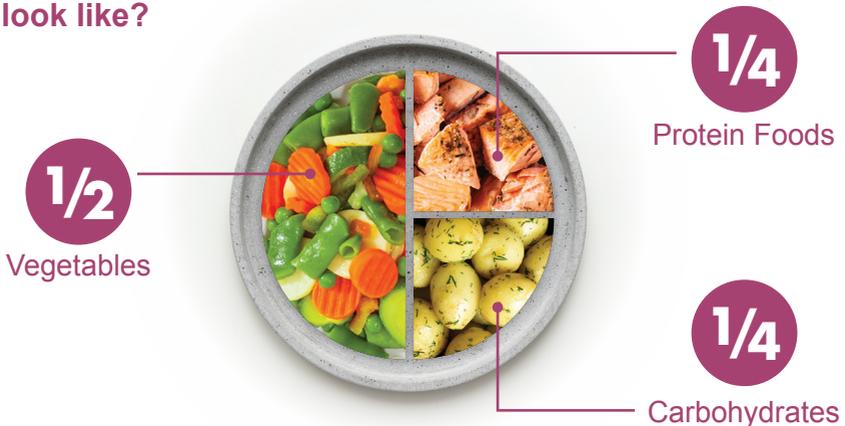
Eat your meals at regular times to:

- improve metabolism (how your body uses energy from food)
- provide a steady flow of energy to the body
- help reduce over-eating and over snacking
- help with weight loss over time

A balanced diet includes:

- carbohydrate
- protein
- fat
- vitamins and minerals

What does a healthy plate look like?



Why are carbohydrates important?

Carbohydrate foods affect the level of blood glucose (sugar) in our blood. Carbohydrate is found in these foods:

Starchy Foods	Foods with natural sugar	Foods with added sugar
Bread, chapatti	fruit	fizzy drinks
Cereal, couscous	milk	cakes
Pasta, rice, potatoes	yogurt	sweets, chocolate

Choose high-fibre starchy foods and foods with natural sugar. Reduce foods with added sugar. You may need to reduce the amount of carbohydrate to help you manage blood glucose.

A note on low-carbohydrate or 'low-carb' eating

Research is showing that lower carbohydrate diets can improve blood glucose levels in those with type 1 and type 2 diabetes. Further research is needed to examine the benefits for people at risk of type 2 diabetes. Following a lower carbohydrate diet can be difficult to maintain and it may be more difficult to get all the fibre and other nutrients our bodies need.

If you wish to follow a lower carbohydrate diet, seek advice and support from a CORU registered dietitian. (CORU is the organisation that regulates health and social care professionals.)


 Ask

Fibre

High fibre foods help digestion and may prevent constipation. These foods are also full of vitamins and may help lower cholesterol and blood glucose levels. High-fibre carbohydrates provide the best energy for the body to work efficiently. Fibre is found in:

- wholegrain cereals
- wholegrain and brown breads
- oats
- fruit
- vegetables
- seeds
- nuts
- beans
- peas
- lentils
- chickpeas

The amount of fibre we need will depend on:

- age
- gender
- how active we are

Top tips for healthy eating

- Have vegetables or salad at every lunch and dinner.
- Choose more greens like, cabbage, kale, spinach, lettuce.
- Choose fruit up to three times per day.
- Choose wholegrain rice and pasta and keep to the recommended servings.
- Avoid sugar-sweetened drinks.



Include high quality protein

Eating high quality protein with meals will help you to feel fuller for longer. It is also important for healthy muscles.

Aim to eat 2 servings of high-quality protein per day like:

- lean meat
- poultry
- fish
- eggs
- beans
- nuts



Eat less processed meats like: sausages, ham, salami, bacon, hot dogs and pepperoni.

People who are more than 65 years of age need 2-3 servings per day.

Include healthy fats

Remember all fats are high in calories and need to be used in small amounts.

Unsaturated fats give us important vitamins and minerals and can help us feel fuller for longer and can improve heart health. They are found in:

- oily fish like salmon, sardines or mackerel
- olive or rapeseed oil
- avocados
- nuts and seeds

Reduce saturated fats like butter, cream and visible fat on meat.

Instead, use small amounts of healthier unsaturated fats like olive and rapeseed oils.

Eat less processed foods

Processed foods are often high in added sugar, fat and salt and have less nutritional value. Choose foods that are less processed more often.

For example, choose wholegrain crackers and breads instead of white crackers, bread sticks or crispbreads.

Eat whole potatoes instead of chips, potato waffles, crisps, potato pies.

Eat cheese in its natural form instead of cheese strings, spreads or dips.

Eat natural yogurt instead of sweetened yogurt.



For more information on serving sizes and eating well go to www2.hse.ie/living-well/healthy-eating/how-to-eat-well

Ask

Speak to a CORU registered dietitian for further support.

Sugar swaps

High sugar	Suggested lower sugar swap
Sugar, syrups, treacle and honey	Use less sugar or use artificial sweeteners instead like: <ul style="list-style-type: none"> • Candarel • Splenda • Natrena
Jam, marmalade	Choose jam and marmalade labelled 'reduced sugar' or 'no added sugar'
Sugar or honey-coated breakfast cereals like: <ul style="list-style-type: none"> • Frosties • Coco pops • Crunchy Nut • Cornflakes 	High fibre cereals like: <ul style="list-style-type: none"> • Shreddies • Weetabix • Bran Flakes • Oat-based cereals like porridge <p>Remember the amount you eat matters!</p>
Soft Drinks <ul style="list-style-type: none"> • Coke • Sprite • Fanta • Squashes 	Water is the best choice Alternatively choose drinks with little or no sugar like – 'diet', 'light', 'slim line', 'reduced sugar', 'sugar free' like: <ul style="list-style-type: none"> • Coke Zero, Pepsi Max • Fanta Light • Ribena Toothkind • Mi-Wadi No Added Sugar • Robinson's Special R

Fat Swaps

High Fat	Lower Fat or Healthier Option
Blended Vegetable oils Olive Oil Rapeseed Oil Sunflower Oil	Choose the healthier types and use very little e.g. olive oil, rapeseed oil
Butter Lard Margarine	Lower fat spreads like: <ul style="list-style-type: none"> • Golden Olive • Flora Light • Low Low
Chips Roast potatoes Fried rice or noodles Fried bread	Boiled potatoes Baked potatoes Mashed potatoes (no added butter or margarine) Boiled rice Boiled pasta Boiled noodles
Full-fat hard, soft or cream cheese	Low fat cheddar Cottage cheese Brie Feta Mozzarella Camembert

Top tips for food shopping

Plan your meals

Make a list based on your plan for the week.

Make a list

Stop and think before adding something that is not on your list to your basket.

Don't shop when hungry

Shopping when hungry can lead to impulse buying and buying foods that we may be craving.

Read food labels

This can help you to make healthier choices.

For more information on reading food labels go to:

www.irisheart.ie/publications/food-shopping-card



1 Eating for Health

Why do we eat?

There are many reasons why we eat. We eat when we are hungry, sometimes we eat when we are tired, bored, to relax and to socialise. This can make it difficult to make changes. Being aware of why and when we eat helps us make healthier food choices.

Mindful eating

Mindful eating means eating slowly, paying attention when you eat and eating without distraction. Eating more mindfully allows us to enjoy food and helps us become more aware of when we feel hungry or full.

Hunger scale



Recognising hunger and fullness while eating can be an important step in taking control of how much you eat. Aim to stay in the green stages (level 3-6).

Notice any habits which may cause you to feel too full. Once you become aware of these habits you can begin to take steps to change them.

If you are living with obesity it may be harder for your appetite hormones to communicate when you are hungry or full. You may not feel hungry or full in the same way as someone else.

1 Eating for Health

Tips for mindful eating

- Notice if you tend to eat quickly and practice eating more slowly.
- If you put your knife and fork down between bites, it can help you to eat more slowly.
- Avoid distractions like watching TV or scrolling on your phone when eating.
- Listen to your body, pay attention to when you feel full.

Pay attention to all of your senses while eating:

- texture
- smell
- sound
- feel

Enjoy your food

- Enjoy shopping and cooking for healthy meals.
- Find pleasure in eating food that makes you feel good.
- Enjoy the social aspect of sharing a meal with family and friends.



Being physically active is one of the best ways to delay or prevent type 2 diabetes. Muscles which are active use more glucose. Other health benefits of being active include:

- lowering blood pressure
- improving cholesterol levels
- improving sleep
- managing stress
- managing weight
- improving fitness



Type: The different types of physical activity are:

Aerobic 	Muscle strengthening 	Flexibility and balance 
<ul style="list-style-type: none"> • Brisk walking • Gardening • Dancing • Swimming • Climbing stairs 	<ul style="list-style-type: none"> • Lifting weights • Carrying groceries • Using resistance bands • Body weight exercises like squats and lunges 	<ul style="list-style-type: none"> • Tai-Chi • Yoga • Pilates • Stretching at home

- Doing a variety of activities works best as each activity has different benefits.
- Variety helps reduce boredom and risk of injury.
- Movement we enjoy is easier to start and stick with.
- Find what you enjoy and try the exercises on pages 18 and 19.

2 Movement for health

How much should I do?

- Do what feels right for you.
- Any amount will benefit your health.
- Aim to build to 30 minutes on five (or more) days of the week.
- Aim to include 2 days of muscle strengthening.
- You can start at any fitness level - regular small bouts add up!

Any movement is better than none
Sit less, stand when you can
Break up periods of sitting often

How hard should I be working?



Aim to feel a little short of breath but still able to say a few words

Start Low
Go Slow
Listen to your body
Stop if you need to

Reduce sitting time

- Notice how long you sit.
- Stand up every 30 minutes.

Move more

- Regular movement helps you to control your blood glucose.
- Small changes make a big difference.
- Remember – slips and setbacks are normal.
- Restart when you can.

Here are some options to help you move more

Home



- Reduce screen time
- Take movement breaks
- Do housework

Commute



- Park a distance away from your destination
- Walk or cycle when you can

Work & school



- Take movement breaks
- Use the stairs.
- Use a standing desk
- Take a lunchtime walk

Leisure



- Walking
- Swimming
- Dancing
- Enjoy active holidays

2 Movement for health

If you are already active:

- Aim for consistency and a mixture of activity types.
- As you build a routine you can progress further.
- Build your activity at a pace that is comfortable.
- Focus on an activity you enjoy!

If you have any concerns, talk to a physiotherapist or a healthcare professional.

Ask

Body weight and resistance exercises



Up on your toes



Kick straight back



March on the spot



Stand up / sit down



Reach Up



Leg out to the side

2

Movement for health



Wall press



Step forward



Straighten at elbow



Arm straight up



Bend and straighten



Up and out

- Aim to build up to spending 1 minute on an exercise.
- Work at a pace that is comfortable for you.
- Focus on enjoying it!
- Do more if you feel able.



Planning for change

- Making a plan is the key to success
- Take the time to stop and think about what might work for you
- Start with one small change and give it a go!
- Try to make your plan as specific and achievable as you can
- Ask for support if you need it

Here are some examples:

Okay 	Better 	Best 
I'm going to walk lots more.	Starting next week, I'm going to walk to work.	Starting next week, I'm going to walk to work on Wednesday and Friday. After 10 weeks, I'll see how I'm doing.
I'm going to eat more vegetables.	I'm going to eat more vegetables with my dinner.	I will buy frozen peas and sweetcorn and have them with my dinner on Tuesdays and Thursdays at least. I'll tick the days I have them on the calendar in the kitchen. After 10 weeks, I'll see how I'm doing.

People do better at achieving their goals when they:

- make a plan
- review it regularly
- monitor their progress

When making a plan, think about:

- how the change will help
- what might get in the way

Other changes you might want to think about

Stress

Stress is a normal part of life – everyone feels stress sometimes. There are many causes and signs of stress. It helps if we know how we feel when we are stressed.

Causes

Stress is usually a reaction to mental, physical or emotional pressure. The causes, signs and responses will vary from person to person.

Signs

- Increased heart rate or breathing
- Eating less or more than usual
- Drinking alcohol or smoking more than usual
- Irritable, forgetful or finding it hard to concentrate

Things that might help (choose what works for you)

- having a good sleep routine
- taking a walk
- gardening
- doing some other activity outdoors
- listening to music
- reading a book
- doing arts and crafts
- DIY (doing it yourself work around the home)
- mindful breathing
- meditation

Family and friends

Ask family or a friend for help if you need it.

Talk to a professional

Sometimes we need professional help so speak to your doctor for support. For more information go to www2.hse.ie/mental-health.

Smoking

If you smoke, there is support available to help you quit

www.quit.ie

National Quitline 1850 201 203



Alcohol

Too much alcohol can increase your risk of serious health conditions.

If you drink more than you should:

- Aim for 2-3 alcohol-free days per week.
- Aim to stay below the low-risk drinking guidelines.

Weekly low risk drinking guidelines for alcohol

Men

Less than 17 standard drinks

Less than 170g alcohol over
a week



Women

Less than 11 standard drinks

Less than 110g alcohol over
a week



Examples of one standard drink are:

Drink	1 standard drink equivalent
Beer, ale, stout	½ pint
Cider	½ pint
Wine	100mls (small glass)
Spirits	35mls (pub measure)
Alco pop	275ml bottle

For more information go to:

www.askaboutalcohol.ie

HSE Alcohol Helpline 1800 459 459

Sleep

Restful, undisturbed sleep is important for our wellbeing. Most people need 7-8 hours of sleep a night.

Things that can help us sleep well:

- being active throughout the day but avoiding strenuous exercise just before bedtime
- not going to bed too hungry or too full
- having a sleep routine and a comfortable bed
- a dark room at a comfortable temperature
- avoiding phone, laptop, TV or any screens just before bedtime

Keeping track

- Keeping track can help us stay motivated
- Keeping track can help us see progress
- We can track any aspect of health, such as food, movement, sleep and stress



Keep track using:

Food tracker

What did I eat and drink today?

How hungry was I before and after I ate?

Where did I eat?

What was I doing?

How did I feel?

Activity tracker

What kind of activity did I do?

How many minutes did I walk for?

How many steps did my pedometer, phone or smart watch display?

Sleep and stress tracker

Keep track of bedtime.

Keep track of screen time.

Note when I wake up feeling refreshed.

Write down (journal) how I feel.

Notice stress and if I can take steps to relieve it.

Having and maintaining a healthy weight can help to delay or prevent type 2 diabetes.

What is a healthy weight?

A healthy weight is the best weight you can be while eating well and being active. A healthy weight is more than a number on a scales. Bone, muscle and fat all make up the number you see on the scales. A healthy balance of fat and muscle is important for health.

What can you do?

Know your weight

Check your weight once a week, but not more often than this. This helps you notice weight gain early and helps you set goals for healthy eating and healthy activity. Weight can fluctuate (by up to 1-2kg) from one day to the next so notice the overall trend rather than day to day weight change.

Have a realistic weight goal

A realistic weight goal is the weight you can reach and can keep when you:

- eat well
- are active
- feel well

Weight loss goals will be different for everyone.

For some people, losing 5-7% of excess weight can help improve blood glucose levels. For example, if a man, Colm, has a weight of 100kg (16 stone), losing 5% of his weight will be 5kg (11lb). If Colm maintains this weight loss, it will help reduce his risk of developing type 2 diabetes.



Tip:

Ask



How we figured out Colm's 5% weight loss.

We used a calculator!

There are 14 pounds (lb) in a stone.

To find out what Colm weighs in pounds, we have to:

1. Multiply (x) his weight in stones by 14, so we multiply 16×14 .
2. Get an answer. This gives us an answer of 224 pounds or 224lbs.
3. Get 5 per cent (%) of 224. To do this, you divide 5 by 100 and then multiply by 224. Your answer is 11.2. The 11.2 is in pounds (lbs).

Here's another example but this time we have Jessica and she wants to lose 7% of her body weight:

Jessica weighs 18 stone. She wants to lose 7% of this weight. She wants to know how much 7% is in pounds. To find out, she needs to:

1. Multiply 18 by 14.
2. This gives her an answer of 252 pounds.
3. Get 7% of 252. To do this, she divides 7 by 100 and then multiplies it by 252. She needs to lose 17.64 pounds. This is about 18 pounds or 1 stone and 4 pounds.

If losing weight is one of your goals, have a go at calculating what 5% weight loss is for you

Staying the weight you are right now

For some, keeping weight steady and not gaining may be the right thing for them.

Get advice from a professional

Speak to your doctor, nurse or CORU registered dietitian to understand more about your risk and to discuss what might be the best weight for you.

Ask

Understanding health results

Your doctor, practice nurse and diabetes prevention team will work with you to decide what measures you should aim for.

They may speak to you about BMI, waist circumference (width around your middle) and blood test results.

You may aim for higher or lower targets depending on your age and medical history.



Your health results

Knowing your own health results can be a helpful way to manage your risk, monitor your progress and help you make changes that are helpful to you.

Ask

You might like to record and track your own health results using the table overleaf.

Ask your doctor to share your results with you.

4

Weight for health

Health Result	Note	Date	Date	Date
Fasting Blood Glucose (mmol/l) The amount of glucose in your blood at a fixed time point.	Healthy is less than 6.1			
HbA1c (mmol/mol)	See page 2			
Weight (kg or Stones)	See page 24			
Height (cm or inches)	Used to calculate BMI			
BMI (kg/m ²)	See page 26			
Waist circumference (cm)	See page 26			
Total Cholesterol (mmol/l)	Healthy is less than 4.5			
LDL Cholesterol (mmol/l)	Less than or equal to 2.6			
HDL Cholesterol (mmol/l)	Men should aim for greater than or equal to 1.0. Women should aim for greater than or equal to 1.3			
Triglycerides (mmol/l)	Aim for less than or equal to 1.7			

Help and support

Diabetes and Pre-diabetes

HSE Diabetes Information HSE Live on **1850 24 1850**

www2.hse.ie/type-2-diabetes

www.hse.ie/pre-diabetes

Diabetes Ireland Helpline on **01-8428118** | www.diabetes.ie

Eating Well

www.healthyireland.ie

www.safefood.eu

www.indi.ie

www.hse.ie/living-well/healthy-eating/how-to-eat-well

Being Active

www.hse.ie/healthy-eating-active-living

www.healthpromotion.ie

www.getirelandwalking.ie

www.parkrun.ie

Weight Loss and Obesity Support

www.safefood.eu/Healthy-Eating/Weight-Loss

www.indi.ie

www.asoi.info

www.icpobesity.org

Find a State Registered Dietitian

To find a state registered dietitian check www.indi.ie or contact your doctor for a referral to a HSE CORU registered dietitian

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Disclaimer

This booklet had been developed and produced by the Diabetes Self-Management Education and Support Team for the Integrated Care Programme for Chronic Disease. Content is based on available evidence and we have made every effort to ensure accuracy at the time of publication. Use this information along with guidance from your healthcare team.

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