

Diet and diabetes

Nutrition and Dietetics

Patient Information Leaflet

Introduction

This booklet gives some general information about what to eat and drink if you have diabetes. If you need more detailed advice, please ask your GP to refer you to a registered dietitian.

What is diabetes?

Diabetes occurs when the level of glucose (sugar) in the blood is too high.

In people without diabetes, a hormone called insulin helps to control blood glucose levels. Insulin acts like a key and allows glucose to move from the blood into the cells that make up your body. Your cells use glucose as fuel.

In people with diabetes, either there is not enough insulin; or the insulin cannot work properly which is known as insulin resistance. If diabetes has not yet been diagnosed or it is poorly controlled, high blood glucose levels may cause the following symptoms:

- Tired
- Unusually thirsty
- Weight loss
- Passing water more often

How is diabetes managed?

It is managed in one of four ways, depending on the person and the type of diabetes:

- Diet alone
- Diet and tablets (for example, metformin and gliclazide)
- Diet and insulin
- Diet, tablets and insulin

It is also important to be active and maintain a healthy weight or aim to lose weight if your weight is above the healthy range. Please ask your GP, practice nurse or diabetes team if you would like advice about a healthy weight for you, weight management or physical activity.



How can diet help?

When people are diagnosed with diabetes, they often worry that they will need to follow a difficult diet. Please don't panic! Healthy eating for diabetes involves having a balanced diet, being aware of carbohydrate (the nutrient that affects blood glucose levels) and heart-healthy eating habits. This is because people with diabetes have a higher risk of developing heart disease.

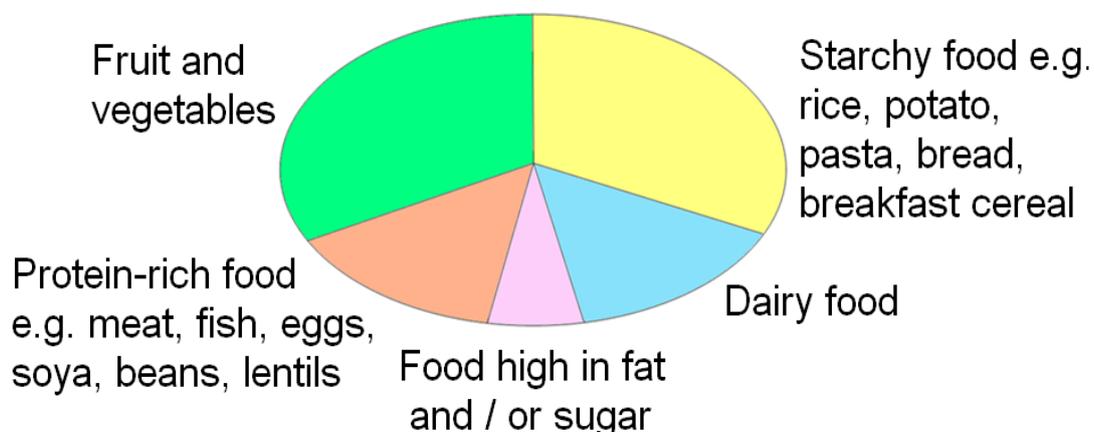
This booklet encourages healthier eating for life and contains lots of practical tips. While you are reading it, think about your eating habits and identify changes that will help you to achieve your goals. Dietary changes can help to:

- Keep your blood glucose levels as normal as possible
- Maintain a healthy weight or promote weight loss
- Lower blood pressure
- Lower cholesterol
- Reduce the risk of complications associated with diabetes which can affect the eyes, heart and kidneys



What is a balanced diet?

The image below shows the five food groups in our diet and the recommended proportion of each of them on an average day.



Here are a few tips to help you eat a healthy, balanced diet:

- Eat regular meals.
- Choose higher fibre varieties of starchy food such as seeded or granary bread and porridge.
- Try to eat two to three portions of fruit a day.
- Eat a variety of vegetables each day (aim for a range of colours).
- Eat protein-rich food twice a day such as meat, fish, soya, lentils or beans.
- If you like oily fish (such as salmon, trout, mackerel, pilchards and sardines), try to have it twice a week.
- Eat two to three portions of lower fat dairy food a day (one portion could be a glass of milk or a pot of yoghurt).
- Limit food high in fat and/or sugar, for example, chocolate, cake, fried food and ice cream.
- Avoid adding salt to your food and check labels on food for the salt content.
- Drink plenty of sugar free fluids – at least eight to 10 cups a day (unless your doctor has given you specific advice about how much fluid to drink).
- Have alcohol in moderation (please see section ‘Alcohol in moderation’).

What is carbohydrate?

Carbohydrate is the name of the nutrient in your diet that affects your blood glucose levels. There are many different sources of carbohydrate:

- Starchy food such as rice, chapati, pasta, potato, bread, noodles, yams and breakfast cereal
- Fruit
- Sugary food and drinks
- Milk and yoghurt
- Starchy vegetables such as potatoes and butternut squash
- Beans and lentils such as baked beans, kidney beans, chickpeas and lentils

People with diabetes need to consider three things about the carbohydrate in their diet:

- Type
- Amount
- Timing

We will explore this in more detail.

What type of carbohydrate is best?

You can make healthier choices by choosing starchy food that takes longer to digest into sugar and is absorbed into the bloodstream more slowly. This helps to keep your blood glucose levels more stable. Carbohydrate-containing food that breaks down into glucose slowly is said to have a lower 'glycaemic index' (GI). In terms of starchy food, generally higher fibre choices are better. Here are some examples of food with a low glycaemic index:

- Granary or seeded bread
- Pasta
- Noodles
- Bran strands e.g. All Bran
- Porridge

Choosing wholegrain, wholemeal, wholewheat and brown types of starchy food, and increasing your fibre intake, can help you to feel full for longer which is useful for weight management.

People with diabetes do not need to avoid sugar completely; however, choosing lower sugar options will help to control your blood glucose levels. Here are some practical tips to help you make better choices:

- Choose no-added-sugar or diet drinks that are sweetened.
- Add sweetener to hot drinks instead of sugar.
- Sweeten breakfast cereal with sweetener, or take a smaller portion and add a portion of chopped fruit, or a tablespoon of lower sugar yoghurt.
- Avoid yoghurts that have a sugar content per 100g in double figures.
- Eat semi-sweet biscuits such as rich tea or malted milk instead of chocolate biscuits.
- Limit fruit to one portion at a time and drink no more than 150 millilitres (ml) of fruit juice a day with a meal (see 'Fruit and vegetables' section for more information).
- If you are going to eat a higher sugar dessert as a treat, make sure that it is a small portion, and help to compensate by reducing the portion of starchy food in your main course.

How should carbohydrate fit into my diet?

If you have diabetes, it is important to eat regular meals and spread your carbohydrate intake out evenly across the day. This helps to keep your blood glucose levels stable. It has also been shown that people who eat regular meals find it easier to manage their weight.

Some people with diabetes who use tablets and/or insulin may need to eat snacks containing carbohydrate. For instance, someone taking tablets and/or insulin in the evening may need to eat some starchy food before they go to bed. It depends on the type of medication and blood glucose readings. Please discuss this with your GP or diabetes team if you have any questions.

When you are thinking about the amount and timing of the carbohydrate in your diet, there is one word that you should remember – **consistency!** This is because big changes in your carbohydrate intake from day to day make it difficult to keep your blood glucose levels stable. Here are some tips to help you manage your carbohydrate intake:

- If your meal contains more than one source of carbohydrate, reduce your portion sizes. This will help you to avoid eating a large amount of carbohydrate in one go.
- Spreading out your carbohydrate intake may be helpful. For example, instead of eating crisps with a sandwich, the crisps could be eaten as a mid-afternoon snack.
- When serving a cooked meal containing starchy food, such as potato, rice or pasta, covering the same size area on your dinner plate may help to keep your carbohydrate intake consistent from day to day. A third of a dinner plate is a sensible portion of starchy food for most people, and a quarter of your plate is best if you are trying to lose weight.

If you want more information about the carbohydrate content of your food, you can look at total carbohydrate in the nutritional information on food labels, and consider buying a carbohydrate counter. A carbohydrate counter is a book containing information about the carbohydrate content of common food items. Please ask your GP, practice nurse or diabetes team if you would like advice from a dietitian about managing your carbohydrate intake.

Some people with type 1 diabetes are taught how to count carbohydrates. This allows them to change their mealtime insulin based on how much carbohydrate they choose to eat.

Before trying to lose weight, it is important that you talk with your GP or diabetes team as your insulin and/or medication may need to be adjusted, particularly if you are planning on reducing the amount of carbohydrate that you eat.

Fruit and vegetables

Eating more fruit and vegetables has many benefits, including better heart health. Use the following tips to help you reach the recommended target of five portions a day:

- Fresh, frozen and tinned all count. If you use tins, it is best to choose vegetables in water and fruit in juice that can be drained.
- Limiting fruit to one portion at a time will help you to maintain stable blood glucose levels.
- Fruit juice can only contribute to one of your five a day and people with diabetes should limit it to 150ml once a day with a meal.

What is a portion?	
Medium fruit e.g. apple, small banana	One piece of fruit
Small fruit e.g. tangerine, kiwi	Two pieces of fruit
Berries, grapes	One handful
Cooked vegetables	Three tablespoons
Salad	One dessert bowl

How can I add more fruit and vegetables to my diet?

- Sweeten breakfast cereal with a portion of fruit, and reduce the breakfast cereal portion to compensate for the added carbohydrate.
- Add salad to sandwiches, for example, two inches of cucumber is one of your five a day.
- Eat one piece of fruit as a snack.
- Eat a small handful of berries with lower sugar and lower fat yoghurt instead of a sugary dessert.
- Use ready-chopped, mixed frozen vegetables as a side dish, or add to sauces.
- Add beans and lentils to stews, casseroles, curries and bolognaise to help make the meat go further.

How can I eat to protect my heart?

Reduce your fat intake, particularly saturated fat

A healthy diet is low in fat because this nutrient is very energy-dense. In each bite of high fat food, there is a high amount of calories (units used to measure food energy).

Fat can be divided into different groups. Saturated fat is found in high amounts in butter, ghee, cheese, meat fat, pastry, cakes and biscuits. This type of fat increases blood cholesterol so it is recommended to reduce your intake, and replace it with small amounts of unsaturated fat which comes from plant sources.

Unsaturated fat reduces blood cholesterol. Monounsaturated fat, such as olive oil and rapeseed oil (commonly known as vegetable oil), is thought to be particularly good for your heart. Here are some ideas to help you make better choices:

- Use fat-free cooking methods when possible, such as grilling, baking, microwaving, steaming or boiling.
- If frying, use a non-stick pan and if fat is required, use a spray oil or measure vegetable oil (e.g. one tablespoon for every four people).
- Grating cheese, and using one with a stronger flavour such as mature cheddar, will mean you will need less or you could choose a lower fat alternative, such as reduced-fat cheddar or cottage cheese.
- Remove skin and fat from meat before cooking it.
- Choose olive spread instead of butter.
- Look for 'light' or lower fat alternatives when shopping but watch out for reduced fat items in which fat has been replaced by sugar.
- Cut down on processed food such as pies and sausages.

Why is oily fish so good for me?

Oily fish is a good source of a special type of fat called omega-3. Omega-3 fat has been shown to protect heart health by reducing blood pressure, reducing the risk of blood clotting and making the heart beat more rhythmically. If you like fish, aim to eat two portions a week including one portion of oily fish. Here are some ideas:

- A piece of salmon with new potatoes and cooked vegetables.
- Toast with a small tin of sardines in tomato sauce and a side salad.
- Half a trout with a small jacket potato and cooked vegetables.
- Grilled mackerel with bread, spread with light olive spread and a grilled beef tomato.

Reduce your salt intake

Healthier eating should involve a reduction in salt intake. One of the benefits from this may be lower blood pressure. People often worry that their food will be tasteless if they do not add salt. However, your taste buds regenerate so if you persevere with the change for a couple of weeks, you should get used to it and have a new appreciation of the flavour of your food. Here are some ideas about flavourings you can use to replace salt:

- Mixed herbs
- Chilli powder
- Black pepper
- Mustard
- Garlic (fresh or granules)
- Vinegar
- Lemon juice

Please note that the use of salt substitutes is not recommended. It is better to get used to eating food that is less salty.

When you are shopping, be a food label detective...



Salt per 100g:

0.3g or less = low (healthier choice)

More than 1.5g = high (eat only occasionally)

Alcohol in moderation

Too much alcohol can have a negative effect on your health, including high blood pressure. People with diabetes who take tablets and/or insulin should be aware that alcohol can cause blood glucose levels to decrease (hypoglycaemia). If you drink alcohol, the following advice will help you to make better choices:

- Add diet pop or soda water to spirits.
- Alternate between diet soft drinks and alcoholic drinks during special occasions when you are drinking alcohol.
- Stick to smaller servings, for example, a 125ml glass of wine, half a pint, a single shot, a white wine spritzer with soda water.
- If you take tablets and/or insulin for your diabetes, reduce the risk of low blood glucose levels by eating before you drink alcohol, or drinking it at the same time as a meal. Then eat a snack containing carbohydrate before going to bed.

Make sure that you have **at least two alcohol-free days a week** and do not exceed the recommended maximum daily intake:

- Men – three units a day
- Women – two units a day

Alcohol is a source of calories. If you are trying to reduce your weight, it is even more important to limit your alcohol intake. The table below gives some examples of alcoholic drinks and their alcohol and calorie content:

Example	Units	Calories	Food with similar calories
125ml dry white wine	1½	83	Crumpet
Pint of lager	2	187	Two slices of thick white bread
Single vodka and diet lemonade	1	56	Medium apple

Meal ideas

Breakfast

- Porridge with skimmed or semi-skimmed milk and sweetener.
- A small portion of bran strands (e.g. All Bran) with half a chopped banana and skimmed or semi-skimmed milk.
- One or two slices of seeded or granary toast with light olive spread, plus half a tin of baked beans or chopped tomatoes, or two eggs scrambled with skimmed or semi-skimmed milk and pepper.

Quick meals

- Sandwich made with two slices of seeded or granary bread, spread with light salad cream plus cucumber and tuna (tinned in spring water), mixed with vinegar.
- Steamed mackerel from a tin, with a side salad including some pasta or potato.
- One wholemeal pitta bread stuffed with reduced-fat houmous, red pepper and salad leaves.

Cooked meals

- A piece of baked salmon with new potatoes and three tablespoons of mixed vegetables.
- Wholewheat spaghetti with homemade bolognese sauce, made with extra lean beef mince or Quorn mince, tinned chopped tomatoes and onion.
- Grilled chicken, red and yellow pepper and tomatoes flavoured with spices on a thin bed of basmati rice.

Desserts

- Sugar-free jelly with a handful of chopped fruit, or lower sugar and lower-fat fruit yoghurt.
- A small handful of tinned fruit (juice drained) with low-fat natural yoghurt or custard made with semi-skimmed or skimmed milk and sweetener.
- Two wholewheat crackers and reduced-fat cheddar.

Snack ideas

Crispbreads, semi-sweet biscuits (e.g. rich tea or malted milk), sugar-free jelly, a portion of fruit, lower-sugar and lower fat yoghurt, a small handful of walnuts and almonds, or a small packet of baked crisps.

Can I find out more?

You can find out more on the Diabetes UK website:

www.diabetes.org.uk

If you have any questions, or if there is anything you do not understand about this leaflet, please contact:

Dietitians at Russells Hall Hospital on 01384 244017
(8.30am to 4.30pm, Monday to Friday)

Community dietitians at Stourbridge Health and Social Care Centre on
01384 323749 (8.30am to 4.30pm, Monday to Friday)

Russells Hall Hospital switchboard number:
01384 456111

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patient.information@dgh.nhs.uk

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