

# Healthy Eating in Type 2 diabetes

**Nutrition and Dietetics Department**

## Who is this leaflet for?

---

- Individuals with type 2 diabetes
- Individuals with pre-diabetes
- Friends, carers and relatives of those with type 2 diabetes/pre-diabetes

## What is type 2 diabetes?

---

A condition in which the amount of sugar (glucose) in the blood is too high. This is because the body cannot control it properly.

## What is pre-diabetes?

---

Pre-diabetes is a condition where the blood sugars are too high. However the reading is not high enough to be classed as diabetes. Individuals with pre-diabetes are more likely to develop diabetes in the future. The diet and lifestyle advice for those with pre-diabetes is the same as for those with diabetes. This advice will be outlined in this leaflet. The sooner you can make changes to your diet and lifestyle the better.

## What causes type 2 diabetes?

---

Everyone needs a certain level of sugar in their blood. This sugar comes from carbohydrate containing foods (sugars and starches). Your liver can also make sugar from fats and proteins.

A gland called the pancreas produces a hormone called insulin. Insulin helps to regulate the level of sugar in the blood by letting sugar into our cells. This gives us energy. Cells make up our muscles and organs.

If you have diabetes your pancreas either:

1. Produces less insulin
2. Produces some insulin but the cells in the body are resistant to the insulin (insulin resistance)
3. Both of the above

In all cases, this means that blood sugar levels rise. If left untreated for a long period this can cause damage to your body.

## Why do some people get diabetes?

---

Why diabetes develops in some people and not others is complex. We know certain risk factors can make it more likely for someone to develop diabetes. These are listed below:

- Being over-weight
- Having a large waist
- Being of African-Caribbean or South Asian background and over 25
- Having a parent, brother or sister with diabetes
- A history of high blood pressure, a heart attack or a stroke
- A history of polycystic ovaries or gestational diabetes

A poor diet and lack of exercise can contribute to the development of diabetes. The risk can also increase with age.

## What can happen if I do not control my diabetes?

---

If your blood sugars are too high in the long-term this can increase risk of:

- Heart disease and stroke
- Eye problems (diabetic retinopathy)
- Feet problems (loss of sensation, diabetic ulcers)
- Kidney problems (loss of function)
- Other problems e.g. erectile dysfunction

## How is diabetes diagnosed?

---

Blood sugar levels can be measured by a blood test. The cut-off points for diagnosis are below:

- A random glucose reading over 11.1 mmol/l, or
- A fasting glucose reading over 7.0 mmol/l, or
- Glucose reading over 11.1 mmol/l two hours after taking a 75g glucose drink in an oral glucose tolerance test (OGTT)

## What is Hba1c?

---

Another measure that is used to diagnose and monitor diabetes is called your Hba1c. Hba1c is now the most commonly used measure to diagnose diabetes. This is a long-term measure of your blood sugar control. It measures the amount of sugar attached to your red blood cells to determine your diabetes control over a 2-3 month period.

- A reading over 48mmols/mol indicates diabetes
- A reading between 42mmols/mol and 47mmols/mol indicates pre-diabetes
- A reading below 42mmols/mol is normal

## Can diabetes be cured?

---

Diabetes cannot be cured but it can be well managed. Diabetes can progress with age as the pancreas becomes less effective at producing insulin. About 50% of those with diabetes go on to use insulin (injected). It is important that your diabetes is regularly monitored.

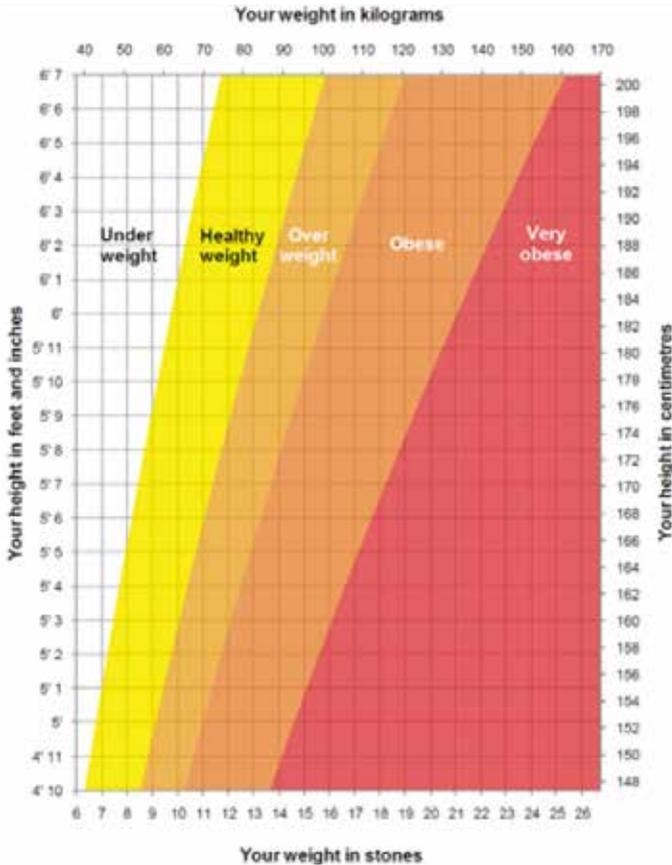
## How do I manage my diabetes?

---

Following a healthy diet and keeping active will help manage your diabetes. Your doctor or practice nurse may also recommend medications. If you are over-weight, losing weight can also help.

## How do I know if I am over-weight?

The chart below can help determine whether your weight is in a healthy range for your height.



You can also measure your waist circumference. You have a higher risk of health problems if your waist size is:

- More than 94cm (37 inches) if you're a man
- More than 80cm (31.5 inches) if you're a woman

Your risk of health problems is even higher if your waist size is:

- More than 102cm (40 inches) if you're a man
- More than 88cm (34.5 inches) if you're a woman

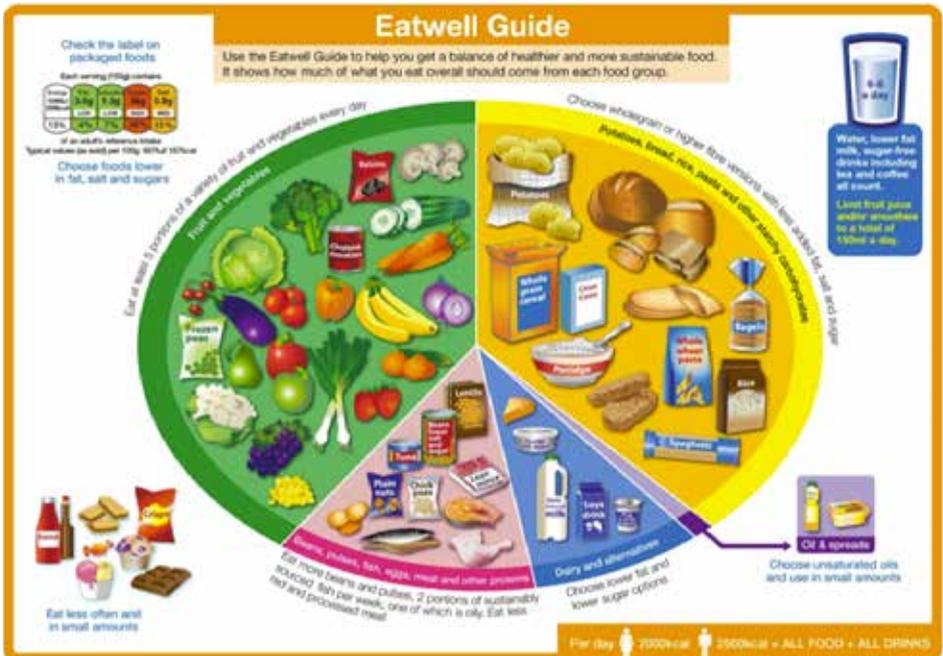
# What is a healthy balanced diet?

A healthy balanced diet contains a variety of types of food.

The EatWell Guide is made up of five food groups. These include:

- Fruit and vegetables
- Starchy carbohydrate foods, such as wholemeal bread and wholegrain cereal
- Protein-rich foods such as meat, fish, eggs and lentils
- Dairy foods
- Oils and spreads

It is important to eat a range of foods from each of the food groups. The diagram below represents a healthy balanced diet:



## What are carbohydrates?

---

The sugar in our blood comes mainly from the carbohydrates we eat. There are two types of carbohydrates; starches and sugars. Starchy foods include bread, pasta, rice, cereals and potatoes, etc. Sugary types of carbohydrate include cakes, biscuits, sugary drinks and confectionary.

It is recommended that we get our energy from small portions of starchy carbohydrates at meal times. These provide slow-release energy as well as other nutrients. We should limit our intake of sugary foods as these tend lead to blood sugars spikes and can lead to weight gain.

Fruit contains fructose which is a type of sugar, however it is not recommended to cut out fruit from the diet. Fruit provides vitamins, minerals and fibre important for health. It can also help reduce risk of heart disease.

## What are the important tips for a healthy diet?

---

- Eat at regular times. Try to include breakfast, lunch and an evening meal.
- Include a moderate amount of starchy food at each meal e.g. bread, rice, pasta, potatoes, porridge and cereals. Opt for wholegrain varieties. Portion size guidance is provided in this leaflet.
- Have at least 5 portions of vegetables and/or fruit every day. Eat a variety of types and colours. Fresh, frozen, dried, tinned and juices all count towards the 5 portions. (Potatoes are a starchy food, so do not count them as one of your 5-a-day).
- Eat moderate amounts of protein, such as meat, fish, eggs and pulses (beans and lentils). Choose lean cuts of meat, remove excess fat and avoid frying where possible.
- Oily fish, such as tinned or fresh mackerel, herring, sardines, salmon or fresh tuna should be eaten at least once a week. Canned tuna is a good source of protein but it does not count as part of your oily fish intake.

- Aim for 2-3 portions of low fat dairy products each day. E.g. 1/3 pint (200ml) of semi-skimmed, 1% or skimmed milk, a 125g pot of low-fat yoghurt or a small matchbox size (30g) piece of cheese. Aim to have 100g or less of cheese a week.
- Reduce your intake of fatty and sugary foods. Information on food labelling is provided below.
- Drink plenty of fluid. Aim for 8-10 cups per day (1 cup = 200ml). Include a variety of fluids e.g. water, low calorie squash, tea and coffee, but limit fruit juice to one small glass (150ml) per day and avoid drinks containing added sugar.
- Excessive intake of alcohol should be avoided. Alcohol is high in calories and a reduction can help weight control. It is recommended that men and women do not exceed 14 units per week. It is important you spread out your alcohol intake across the week. Include at least 2 alcohol-free days per week. 1 unit is equivalent to half a pint of 4% lager, 76ml of 13% wine or 1 single 25ml measure of spirit.

## Should I buy “diabetic” products?

---

No! This is unnecessary and these products are not recommended. Diabetic products can still affect your blood sugars as well as being high in fat. They are also expensive and can have laxative effects if eaten in large quantities. Just use normal products but consume in moderation e.g. as an occasional treat.

## Food labelling guide

---

The traffic light system makes it easier to choose healthier options but not all labels use this. The table below shows you the cut-off points for high, medium and low for nutrients. Aim to buy products which are green but some may be amber. Red foods should be eaten in moderation.

All measures per 100g	Low	Medium	High
Fat	3g or less	>3g – ≤17.5g	More than 17.5g or >21g/portion
Saturated fat	1.5g or less	>1.5g – ≤5g	More than 5g or >6g/portion
Sugars	5g or less	>5g – ≤22.5g	More than 22.5g or >27g/portion
Salt	0.3g or less	>0.3g – ≤1.5g	More than 1.5g or >1.8g/portion

## What are the best food choices most of the time?

Instead of these:	Try these:
White bread, sugar-coated breakfast cereals, croissants and muffins	Granary or wholemeal bread, porridge, wholegrain breakfast cereals
Sugar for sweetening drinks, cereals etc.	Artificial sweetener e.g. Canderel®, Sweetex®, Hermetas®, Splenda®
Squashes and fizzy drinks	Low calorie or diet versions with no added sugar
Desserts and puddings, milk puddings, jellies, tinned fruits in syrup	Canned fruit in juice, low calorie/diet yoghurts, fresh fruit or sugar-free jelly or low calorie instant whip or mousses
Cakes, doughnuts, pastries, cream-filled or chocolate biscuits, crisps	Fresh fruit, rice cakes, scones, teacakes or plain biscuits (rich tea, garibaldi or digestives)
Fried and fatty foods e.g. chicken nuggets and battered fish. High calorie ready-meals e.g. chicken korma	Grilled lean meats instead or use only small amounts of oil in cooking. Low calorie or “healthy” ready-meal options
Butter, lard, ghee, hard margarine, coconut oil, palm oil	Choose a low fat spread labelled “high in monounsaturates”. Use these sparingly. Cook with olive oil or rapeseed oil
Full-fat milk and cheese	Semi-skimmed, 1% or skimmed milk, low fat cheeses. E.g. cottage cheese or light cream cheeses

## What can I eat for breakfast?

---

- High fibre cereal e.g. unsweetened muesli, Weetabix®, Branflakes®, Shredded Wheat®, with milk and/or low fat yoghurt
- Porridge
- Small glass of unsweetened fruit juice or piece of fruit (dried or fresh), eaten on its own or added to cereal or porridge
- Granary or wholegrain toast with a scraping of low fat spread and/or jam, marmalade, honey, Marmite® etc
- Small portion of fruit salad with low fat yoghurt
- Boiled or poached egg and wholemeal/wholegrain toast
- Lean grilled bacon, grilled tomatoes, baked beans or mushrooms on wholemeal/wholegrain toast

## What can I eat for main meal?

---

### Meat dishes

- Always choose lean cuts of meat, remove any remaining visible fat and cook without using excess oil
- Stewed lean meat with vegetables e.g. chicken casserole
- Stir fry pork or chicken with vegetables
- Grilled and roasted meats with gravy made without added fat

### Fish dishes

- Choose a variety of oily fish & white fish
- Try grilling or baking in the oven, rather than frying
- Cook with herbs or a small amount of a tomato-based sauce
- Fish pie, made without cream or cheese
- Grilled or oven baked fish fingers or fish cakes
- Avoid battered fish particularly if served with chips

## **Pasta dishes**

- Use a tomato-based sauce rather than creamy or cheese based varieties

## **Salads**

- Try cold lean meat, fish (fresh or tinned) or eggs. Use a variety of salad ingredients. E.g. lettuce, tomato, cucumber, mushroom, pepper
- Aim to include a small portion of starch with your salad, e.g. bread, new potatoes, couscous, rice or pasta
- Limit mayonnaise, salad cream or dressing to a dessert spoon size. Opt for low fat varieties
- Avoid high fat foods such as quiche and pastry products

## **Vegetarian dishes**

- Use a variety of pulses, Quorn® or soya products rather than cheese
- Vegetable lasagne or spinach ravioli with a tomato sauce
- Vegetable curry with rice
- Stuffed whole peppers, tomatoes or mushrooms

## **What can I eat for a snack or light meal?**

---

### **Soups**

- Home-made, tinned or packet soup
- Try consommé or soups with beans, vegetables and pulses e.g. lentils
- Avoid “cream of” soups

### **Sandwiches**

- Use wholemeal or granary bread, rolls, baguettes or pitta bread
- Choose fillings of lean meats, fish, salad, cottage cheese or egg
- Avoid full fat cheese, paté and fillings mixed with mayonnaise

## **Jacket potatoes**

- Filled with baked beans, tuna, reduced fat coleslaw, cottage cheese, ham and pineapple
- Avoid full fat cheese and fillings mixed with mayonnaise, oil or cream

## **Toast**

- Topped with baked beans, tinned tomatoes, scrambled egg or sardines/pilchards/ mackerel
- Avoid using butter, margarine or spread

## **What can I eat for dessert?**

---

- Fresh fruit
- Stewed fruit, sweetened with artificial sweetener. Try topping with low fat yoghurt or fromage frais
- Tinned fruit in natural juice (not syrup)
- Natural or fat free yoghurt. Aim for 70 calories per pot
- Sugar-free jelly. Try adding tinned fruit
- Sugar-free mousse (made with semi-skimmed, 1% or skimmed milk)
- Low fat/low sugar milk puddings

## **What should I choose when eating out?**

---

### **Restaurants**

- Try light starters e.g. clear soup, melon, lean meat/fish or salad. Avoid cheese, bread and butter, mayonnaise and salad dressings
- Some restaurants serve very large portions. Do not feel you have to finish everything on your plate. You can also ask for a smaller portion
- Try grilled meat or fish with salad for the main course
- Ask for food to be served without extra butter, oil or rich sauces added

- Ask for dressing, sauces or gravy to be served on the side and only use small amounts
- Avoid fried food where possible e.g. chips. Fried foods are often described as “crispy” or “crunchy” on the menu
- Opt for tomato based sauces instead of creamy versions
- Ask for low fat milk with coffee and tea
- Only order a dessert after your main course if you are still hungry

## Takeaways

Type	Try these:	Instead of these:
Sandwich Shop	Wholemeal/granary bread, roll, pitta or wrap with salad and: tuna and sweetcorn, low fat cheese spread, smoked salmon, cottage cheese, lean meat, chicken, sardines	Croissant, pies, pastries, doughnuts, Cornish pasties, sausage rolls, salad dressing, mayonnaise, salad cream, butter and spread
Pizza	Thin crust base with low fat toppings e.g. ham and pineapple, lean meat, extra tomatoes and vegetables	Thick or stuffed crust, extra cheese, salami, pepperoni, garlic bread, adding extra oil
Fast food	Grilled, plain chicken, beef, fish or vegetable burgers, potato wedges, salad	Fried or coated chicken, fish or beef burgers, quarter pounders, added extras such as bacon and cheese, chips, milkshakes, mayonnaise

Chinese	Stir fried dishes, steamed or boiled rice, chop suey dishes, beef in oyster sauce	Fried rice, deep fried batters, duck, ribs, crispy seaweed, spring rolls, sweet & sour dishes, prawn crackers
Indian	Balti and tandoori dishes, tikka dishes (not masala), boiled rice, chapatti, tomato based curries	Korma and cream/ coconut based dishes, naan, biryani, pilau rice, samosas, bhajis, poppadoms
Café	Baked beans, tinned tomatoes, mushrooms, poached egg on wholemeal/ granary toast, grilled bacon sandwich	Pastry, sausage roll, quiche, fried bacon and eggs, sausages, pasty, chips, cream cakes or desserts
Coffee shop and drinks	Americano with skimmed milk, espresso, “skinny” latté, cappuccino, sugar free syrups. Small tea cake or biscuit	All drinks made with full fat milk including latté, mocha and hot chocolate, normal syrups. Cream cakes and buns

Meals out with friends and family should be enjoyable and not a source of anxiety. The occasional indulgent meal can be allowed as a treat. If you eat out regularly try to make sensible choices and avoid eating too much. Takeaways can be very unhealthy options, so it is best to limit these as much as possible.

## What does a typical menu look like?

---

Always remember that snacks, puddings, cakes and biscuits should only ever be eaten in small quantities, even when choosing low fat or low sugar varieties.

**Breakfast:** Porridge or wholegrain cereal or granary or wholemeal toast with low fat spread Fruit or small glass of fruit juice

**Snack Meal:** Granary or wholemeal bread or roll with mixed salad and lean meat, fish, beans, egg or low fat cheese. Full fat or low fat/diet yoghurt

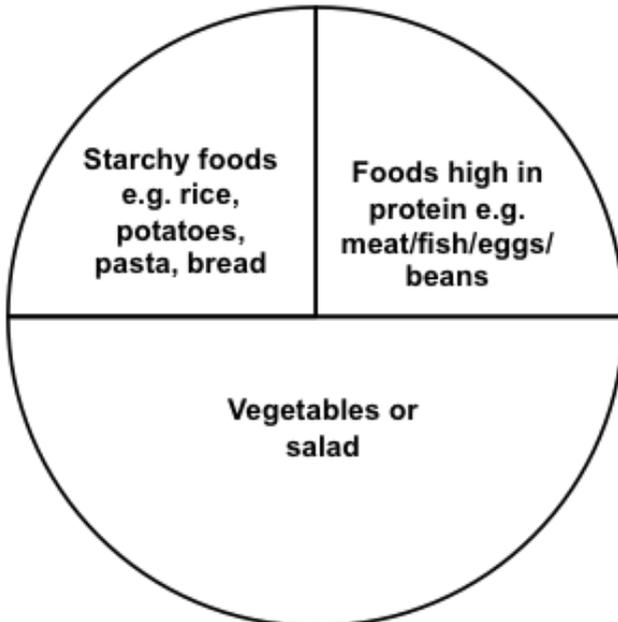
**Main Meal:** Potatoes, rice or pasta. Large serving of vegetables or salad. Lean meat, fish, pulses or vegetarian dish. Fruit or low calorie dessert

**Between Meals:** Fruit or plain biscuit if required. Water, 'no added sugar' squash. Tea and coffee without added sugar.

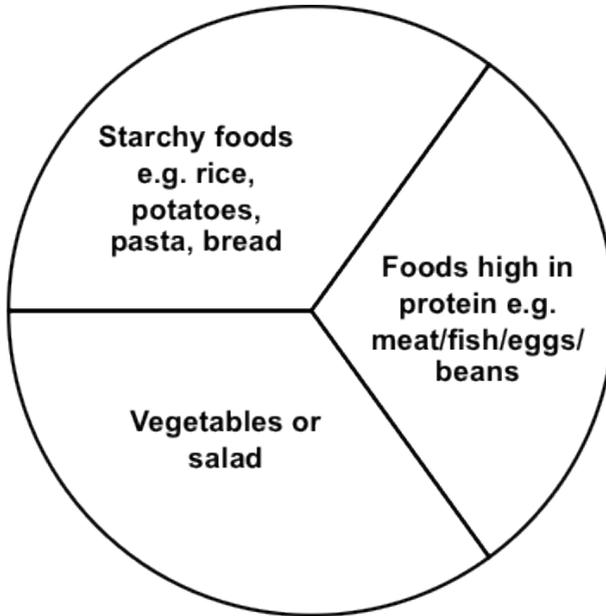
## What can I do to lose weight?

---

In addition to the recommendations above, reducing portion size is key for weight loss. Divide your plate up as below:



## What should my plate look like to maintain my weight?



## How can exercise help manage my blood sugars?

Exercise can help lower blood sugar levels as well as improving fitness. This helps reduce the risk of the complications associated with diabetes.

It is recommended everyone does 150 minutes of moderate activity per week. This could be 30 minutes on 5 days of the week. This could include a brisk walk, swimming, dancing or sports. You should feel out of breath but still able to hold a conversation.

Day-to-day activities such as doing the housework and mowing the lawn can also count towards your weekly target. Keep active by taking the stairs instead of the lift or get off the bus a stop early.

It is also recommended to undertake strengthening exercises twice per week in addition to the above. This includes lifting weights, using resistance bands or doing sit-ups. Try to do at least one set of each exercise with 8-12 repetitions in each set.



## Contact details

---

Telephone: 01483 464119

Email: [rsch.dietitians@nhs.net](mailto:rsch.dietitians@nhs.net)

---

## PALS and Advocacy contact details

---

Contact details of independent advocacy services can be provided by our Patient Advice and Liaison Service (PALS) who are located on the right hand side as you enter the main reception area. PALS are also your first point of contact for health related issues, questions or concerns surrounding RSCH patient services.

**Telephone:** 01483 402757

**Email:** [rsc-tr.pals@nhs.net](mailto:rsc-tr.pals@nhs.net)

**Opening hours:** 9.00am–4.00pm, Monday to Friday

If you would like information documents in large print, on tape or in another language or form please contact PALS.

Past review date: June 2016

Future review date: June 2019

Author: Nicola Clarke

**PIN160609–1076**

