Department of Nutrition and Dietetics

Healthy Eating for People with Diabetes

Introduction

Diabetes is a common, life-long condition in which the amount of glucose (sugar) in the blood is too high. Normally, the levels of glucose in the blood are controlled by a hormone called insulin. This is produced by an organ in the body called the pancreas. Diabetes occurs when the body does not produce enough insulin, or the insulin it does produce cannot work properly. Glucose is produced from the digestion of carbohydrate (starchy and sugary) foods. This is the body's main source of fuel. Your body requires insulin to take the glucose into your muscles where it is then used for energy.

There are two main types of diabetes

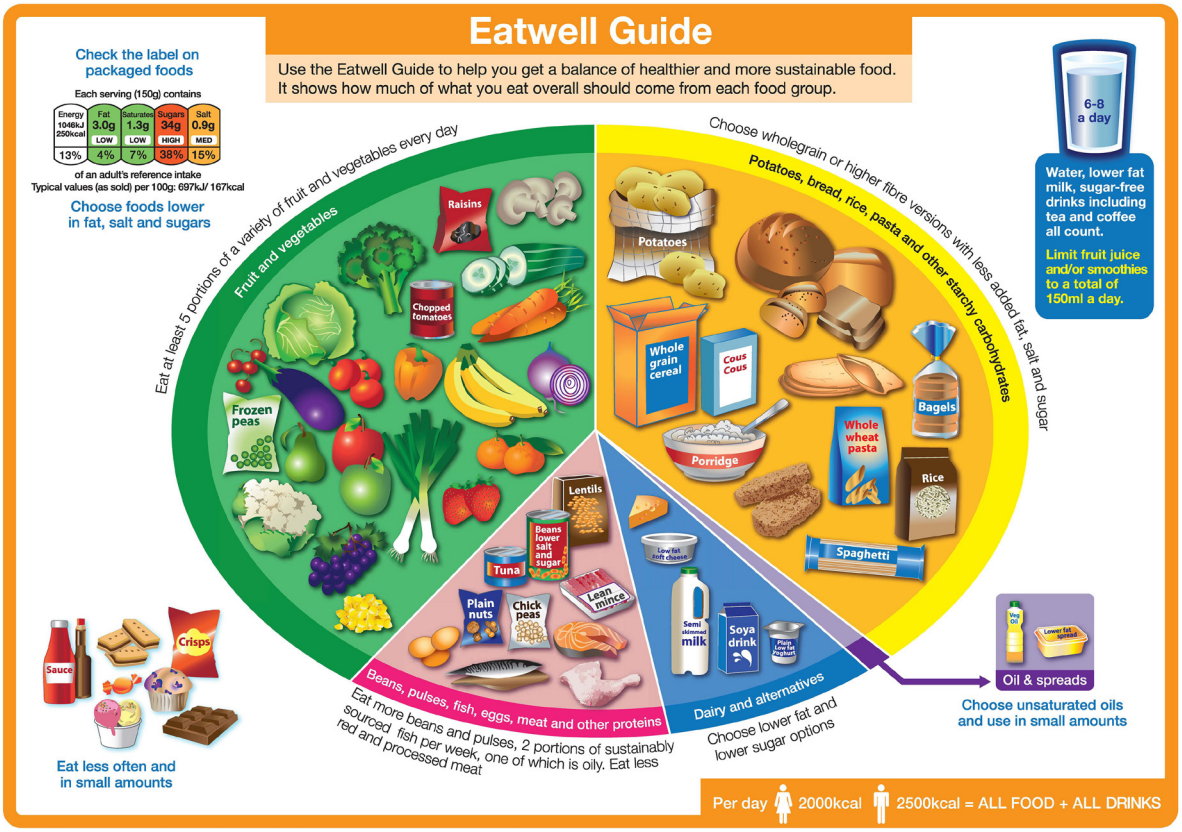
Type 1 diabetes occurs when the body is unable to produce any insulin. This type of diabetes can occur at any age. The onset of symptoms can be very rapid, usually within a matter of weeks. The treatment for this type of diabetes is insulin injections. You can learn how to adjust your insulin according to what you eat.

Type 2 diabetes develops when the body can still make some insulin but not enough for its needs, or when the insulin that is produced does not work efficiently (known as insulin resistance). It most commonly occurs in people over the age of forty, although it can occur in younger people from South Asian or African-Caribbean backgrounds or those who are overweight. It usually develops over a prolonged period of time, usually months or even years. It is managed by diet and regular physical activity alone or a combination of diet, exercise and tablets and/or insulin injections. Weight management is a key factor in the treatment of type 2 diabetes.

Pre-diabetes occurs when blood glucose levels are higher than the normal range, but are not high enough for a diagnosis of type 2 diabetes. People with pre-diabetes are more at risk of developing type 2 diabetes and following healthy lifestyle advice will reduce the risk.

Healthy Eating, Healthy Life

In addition to raised blood glucose levels, cholesterol and blood pressure may also be raised. People with diabetes are encouraged to adopt and maintain healthy and enjoyable lifelong eating habits. This, together with regular physical activity, will help to improve your overall health and wellbeing and help to achieve a healthy body weight.



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Carbohydrate

Carbohydrate is our body's preferred source of energy in the diet. All carbohydrates are broken down into glucose.

Which Foods Contain Carbohydrate?

Carbohydrate is present in starchy foods (such as cereals, potatoes, yam, pasta, rice, chapattis and bread); foods with added sugar (such as sweets, chocolate, cakes, soft drinks, desserts); fruit and some dairy products (milk and yoghurt).

Starchy Carbohydrates

Your meals should contain moderate amounts of slowly digested carbohydrate foods, as they are broken down into glucose more slowly and so do not cause blood glucose levels to rise too quickly. This may help keep your blood glucose levels more stable and will help you feel full for longer.

Tips:

- Try and spread the carbohydrate load to minimise peaks in blood glucose.
- Aim for 3 moderate meals with small healthy snacks between, if needed.
- Aim for no more than 40-50g of carbohydrate per meal.
- Aim for 10-20g of carbohydrate per snack.

(Please see page 5)

How to incorporate low glycaemic index (GI) foods

Quick Release Starchy Foods / High GI Change from these	Slow Release Starchy Foods / Low GI Try these instead
White, brown, wholemeal bread	Multigrain, granary, seeded, rye, pitta bread.
Cornflakes, Weetabix, shredded wheat, sugar coated cereals, granola	Porridge, no added sugar muesli, Oatibix, All Bran, Branflakes.
Creamed, mashed, jacket potatoes	New boiled/steamed potatoes, sweet potatoes, yam, plantain.
Jacket potatoes with butter or spread	Jacket potatoes with meat/fish/cheese/chilli con carne/bolognese and vegetables.
Chapatti made with white or medium brown wheat flour	Chapatti made with wholemeal wheat or barley flour.
Long grain rice	Basmati, easy cook rice, cous cous, pasta, noodles.

Fruit and Vegetables

Aim to have 5 portions of fruit and vegetables every day. This can be split into 2-3 portions of fruit and 2-3 portions of vegetables. They can be fresh, frozen or tinned.

Fruit contains the natural sugar fructose, which can increase blood glucose levels. Use the portion guide below to help and remember to spread fruit evenly throughout the day.

A portion is often best described as a small handful, for example:

- 1 average size apple, pear, banana, orange.
- 2 smaller fruits, e.g. plums, kiwis, satsumas.
- 1 large slice of melon or pineapple.
- 10 grapes or any type of berries.
- 2-3 tablespoons of fruit salad, stewed fruit or tinned fruit in juice.
- 2 dessert spoons of dried fruit.
- 3-4 dried prunes or apricots.
- Small (200ml) glass of fruit juice – this is best consumed alongside a meal.
- 2-3 heaped tablespoons of vegetables including pulses (e.g. baked beans).
- A small cereal bowl of salad.

Feel free to fill up on as many vegetables or as much salad as you wish, especially if you are trying to lose weight.

Sweet and Sugary Foods and Drinks

- There is a common misconception that people with diabetes must follow a sugar free diet.
- It is true that sugary drinks and sweets cause a quick increase in blood glucose levels, so people with diabetes will benefit from choosing suitable low sugar or sugar free alternatives on a regular basis. (See tables on pages 8 and 9).
- Some sugar can be included as part of a healthy, balanced diet. However, try to keep to small portions of sugary foods as an occasional treat as increased calories from sugary foods can lead to weight gain.
- Diabetic foods or drinks are not recommended – they are expensive, they have a higher fat content and have no added benefit for people with diabetes.

Foods high in sugar	Foods to try instead
Sugar, Honey, Syrup	Artificial sweeteners (it is best to use a variety), for example, Splenda, Hermesetas, Canderel, Sweetex, Truvia, supermarket own brands.
Sugary and sweet drinks	Diet, Light or Zero fizzy drinks. Sugar free or "no added sugar" squash. 1 small glass (150ml) of pure fruit juice or smoothie a day.
Cream and chocolate biscuits	1 to 2 plain biscuits such as Rich Tea, Oatcakes, Ginger or Garibaldi.
Cakes, sweet pastries and puddings	A small serving of low fat milk puddings such as rice pudding, semolina or low fat custard. 1 scone/ crumpet/ small currant teacake or 1 small slice of malt loaf. 1 portion of fruit.
Thick and creamy yoghurts and fromage frais. Note some brands of low fat yoghurts can also be high in sugar	Healthy option, light, diet, virtually fat free or low calorie yoghurts (aim for about 5-8g of sugar per 100g).
Jams and marmalade	Spread thinly or use reduced-sugar varieties or pure fruit spreads.
Tinned fruit in syrup	Tinned fruit in juice, drained
Sweets, chocolate, sugary foods such as laddoo, gulas, jamun, kheer, halma and rassomalai	Sugar free mints. A few squares of 70 - 80% coco chocolate. One portion of fruit. Low calorie hot chocolate drinks such as Options or Highlights

Special diabetic products such as sweets, biscuits and chocolates, are not necessary. They can be high in calories and are usually expensive.

A Guide to Healthy Snacks/Suppers

If you need a small snack between meals or before bed, here are some ideas:

- Fresh fruit for example 1 apple, orange, pear, banana.
- A small handful of dried fruit such as raisins or apricots.
- A slice of granary or multigrain bread / toast or 2 ryvitas / high fibre crackers or 2-3 oatcakes with topping such as low fat spread, hummus or salsa.
- 2 small plain biscuits such as Rich Tea or Garibaldi or 1 digestive biscuit.
- 3 tablespoons of breakfast cereal with semi-skimmed milk.
- A small scone, currant teacake, toasted muffin or crumpet with low fat spread.
- A small pot of healthy option, light, virtually fat free or low calorie yoghurt.
- 1-2 thin slices of malt loaf
- 1 mini pitta bread with low fat cheese spread or peanut butter

Fats

Fat is an important component of our body cells and therefore we need a certain amount of it in our diet. However, fat is very rich in calories so having too much of it will lead to weight gain and raise your cholesterol levels. Therefore, try to reduce your total fat intake.

Different foods contain different types of fat

- Unsaturated fats are the best choice as they do not raise cholesterol and help protect your good cholesterol (HDL). They are found in olive, sunflower, rapeseed, ground nut and some vegetable oils, they are also in unsalted nuts and avocados.
- Oily fish are a good source of omega-3 fats, which are beneficial for your heart eg salmon, sardines, mackeral, pilchards, trout and kippers. Try to have oily fish twice a week. Choose versions tinned in brine, spring water or tomato sauce, rather than oil. Alternatives to oily fish are walnuts, green leafy vegetables, soya products and Omega 3 enriched foods. However it is not clear if these foods offer the same health benefits as oily fish.
- Saturated and Trans fat should be limited as they increase cholesterol levels. They are found in animal products such as milk, butter, cheese, meat, solid cooking fats, for example lard, ghee, cakes and pastries.

Practical ways to reduce your fat intake

- Try low fat spreads. Ones that are high in monounsaturated fats and low in saturated fats are particularly good choices.
- Try lower-fat milk e.g. semi-skimmed or skimmed milk.
- Try lower fat cheeses susch as: Feta, Ricotta, reduced fat Cheddar, Primula Cheese Spread. Using a stronger flavoured cheese such as mature reduced fat Cheddar, Parmesan or Stilton means you can use a smaller quantity. Also try grating your cheese rather than slicing it as this also helps you to use less.
- Try healthy option, light, virtually fat-free, “diet” or low-calorie yoghurts and fromage frais. Low fat Crème fraiche can be a substitute for cream.
- Try grilling, poaching, baking and steaming your food instead of frying.
- Keep high fat snacks and takeaways for the occasional treat, for example crisps, nuts, samosas, pakoras, spring rolls etc.

- Try to avoid made up or processed meats and pies for example burgers, pastes, pâtés, pasties etc.
- Choose lean cuts of meat, remove visible fat and skin from chicken and turkey and try to include more fish.
- Beans and pulses (e.g. baked beans, chickpeas, kidney beans, and lentils) are low in fat and can be used as a substitute for meat in casseroles or stews and can be included in soups for added bulk. They help to lower cholesterol level and can aid blood glucose control.
- If buying ready meals aim to choose the healthy option/low fat ranges but beware they can sometimes just be smaller portions of the ordinary high fat/calorie versions. As a guide, aim for 300-400 kcals for the complete meal. Improve the balance of the meal by adding some extra vegetables or salad.
- Foods fortified with plant sterols and stanols such as margarine can help lower cholesterol levels.

Salt

A high intake of salt can raise your blood pressure, which can lead to a stroke and heart disease. Aim to reduce the level of salt in your diet to 6g (1 teaspoon) or less a day. Try flavouring foods with herbs, pepper and spices instead of salt. Also limit the amount of processed foods you eat as these are often high in salt.

Alcohol

Alcohol is high in calories and can contribute towards unwanted weight gain and high blood pressure. The current recommended intakes for alcohol should not be exceeded: 14units a week spread over 3-4 days with at least 2 alcohol free days.

A unit of alcohol is ½ pint normal strength beer, lager or cider; a pub measure of sherry, vermouth, aperitif or spirits; a small (125ml) glass wine. Alco-pops contain 1.5 units of alcohol per bottle and tend to be very high in sugar.

Remember that the size of drinks can vary – home measures of spirits tend to be more generous than those in the pub and more bars are selling larger glasses of wine. Some cans and bottles of beer, lager and cider are nearer ¾ pint and alcohol strengths of all drinks can vary.

Physical Activity

Regular physical activity is an important part of your diabetes management. It is a good way of using up extra calories and helping with weight control.

In addition, it improves blood glucose control in type 2 diabetes by reducing insulin resistance, helps keep your heart healthy and can help reduce blood pressure and stress. You do not need to go to the gym, just try to incorporate some activity into your normal daily routine. For example try to fit in as much walking as possible, e.g. get off the bus a stop early, park your car in the furthest spot in a car park or go out for a brisk walk in your lunch break.

The recommended minimum amount of activity for adults is 30 minutes at a moderate intensity on at least 5 days of the week. If you are not used to exercise it is a good idea to build up gradually to prevent injury, e.g. start with 10 minutes daily and increase the length as your fitness improves.

Choose any activity you enjoy that can be carried out on a regular basis for example:

- Gardening.
- Bowling.
- Golf.
- Swimming.
- Dancing – join a salsa, belly dancing or line dancing class.
- Following an exercise video.
- Being more vigorous when cleaning the house.

In addition aim for 2 sessions of strengthening exercise per week for example:

- Yoga.
- Pilates.
- Gardening.
- Carrying shopping.

Remember to check with your Doctor or Practice Nurse before starting any exercise.

Sample Menu Plan

Breakfast

- Small glass (150ml) of fruit juice or smoothie.
- 4-6 tablespoons of no added sugar muesli, porridge oats, Branflakes, All Bran or 2 Oatibix or 2 Shredded Wheat with semi-skimmed/skimmed milk, or
- 2 slices of wholegrain toast or 2 crumpets or 1 currant teacake with a thin scrape of a low fat unsatuated spread or small scrape of high fruit content jam/marmalade/low fat cheese spread.

Light Meal

- Sandwich made with 2 slices wholegrain bread or 1 bread roll or 1 pitta bread or 4 rye crispbreads or oat crackers with salad plus
- 2-3 oz (60-85g) of cooked meat/poultry or vegetarian alternative (for example low fat houmous) or 4-5 oz (120-140g) tuna/sardines/mackerel or 2 boiled eggs.
- Use a small amount (e.g. 1-2 teaspoon) of low fat mayonnaise/salad cream/low fat/ monounsaturated spread as necessary.
- 1 low calorie or diet yoghurt.

Main Meal

- 4-5 tablespoons pasta/cous-cous/noodles, easy cook rice or basmati rice/bulgar wheat or 4-5 egg sized potatoes with,
- 6 tablespoons vegetables or large portion of salad (low calorie dressing can be used if needed) and,
- 3 oz (60-85g) of meat/poultry or 5 oz (120-140g) fish or 4 oz vegetarian alternative such as soya, tofu or quorn or 2 eggs or 4-5 tablespoons dhal, pulses, beans or lentils.
- A portion of fruit.

In summary the nine steps to a healthy lifestyle are:

1. Try to eat regularly and include a variety of foods.
2. Base meals on moderate portions of starchy foods.
3. Eat plenty of fruit and vegetables – aim for five portions a day.
4. Cut down on all fats especially foods high in saturated fats.
5. Eat less sugar and sugary foods.
6. Aim to eat 2 portions of oily fish per week.
7. Try to eat less salt and salty foods. Aim for less than 6g/day
8. Drink alcohol in moderation – aim to keep within the recommended limits.
9. Be more active every day – this is an excellent way of helping to control your weight and diabetes.

Your Personal Targets

1.

2.

3.

4.

5.

Your weight today is:

If you need further advice about your diet contact your local hospital Dietitian:

Diabetes Centre
Calderdale Royal Hospital
Halifax HX3 0PW
Telephone No: (01422) 222033
Email: cah-tr.diabetesdietitians@nhs.net

Your Dietitian: .....

For information about any other aspect of diabetes, please contact:

Diabetes UK
Diabetes UK Careline: 0345 123 2399
Website: www.diabetes.org.uk

British Heart Foundation (BHF)
Website: www.bhf.org.uk

Food Standards Agency (FSA)
Website: www.food.gov.uk

Carbs and Cals
Website: carbsandcals.com

British Dietetic Association (BDA) Food Facts
Website: bda.uk.com/foodfacts

If you have any comments about this leaflet or the service you have received you can contact :

Dietetic Service Manager
Dietetic Department
Huddersfield Royal Infirmary
01422 224267 or 01484 342749

www.cht.nhs.uk

If you would like this information in another format or language contact the above.

Potřebujete-li tyto informace v jiném formátu nebo jazyce, obraťte se prosím na výše uvedené oddělení

Jeżeli są Państwo zainteresowani otrzymaniem tych informacji w innym formacie lub wersji językowej, prosimy skontaktować się z nami, korzystając z ww. danych kontaktowych

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ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਉਪਰੋਕਤ ਵਿਭਾਗ ਵਿੱਚ ਸਾਡੇ ਨਾਲ ਸੰਪਰਕ ਕਰੋ।

اگر آپ کو یہ معلومات کسی اور فارمیٹ یا زبان میں درکار ہوں، تو
براۂ مہربانی مندرجہ بالا شعبے میں ہم سے رابطہ کریں۔

"إذا احتجت الحصول على هذه المعلومة بشكل مغاير أو مترجمة إلى لغة مختلفة فيرجى منك الاتصال بالقسم المذكور أعلاه"