

Nutrition and Dietetics

Dietary advice for the prevention and treatment of heart disease and stroke

This leaflet is intended for people with, or at risk of, developing heart disease and stroke. This leaflet also offers advice on products available specifically for cholesterol lowering and includes practical advice throughout to help you improve your diet and lifestyle.

Risk factors for developing heart disease and stroke include -

- History of heart attack, stroke, or TIA (transient ischaemic attack), kidney disease, diabetes, or metabolic syndrome,
- High cholesterol levels,
- High blood pressure,
- Smoking,
- Excess alcohol intake,
- Being overweight,
- Inactivity.

Your doctor may have prescribed medications to reduce your risk, eating more healthily and making changes to your lifestyle can also help.



Contents

Fat	3
Eatwell Guide	4
Fish and omega-3	6
Fruit and vegetables	8
Nuts, pulses and lentils	11
Fibre	12
Plant sterols and stanols	13
Salt and blood pressure	14
What else can I do to help lower my blood pressure?	15
Alcohol	15
Weight management	17
Food labels	18
Vitamins and mineral supplements	19
Smoking	20
Physical activity	20
Further support	21

Fat

Cholesterol

Cholesterol is a type of fat made by the body. It is mostly made by the liver from saturated fat in the foods you eat. Cholesterol plays an important role in the body, but too much can increase your risk of getting heart disease and stroke. Increased cholesterol levels can lead to fatty deposits forming in your blood vessels causing them to narrow and block.

People who are at high risk of or who already have heart or circulatory disease should aim for a total cholesterol level of 4mmol/l or below.

Cholesterol is carried around the body in the form of lipoproteins. There are two types:

Low density lipoproteins (LDL cholesterol) - this is known as 'bad cholesterol' as it transports fat to your heart and blood vessels. The recommended level for LDL cholesterol is 2mmol/l or below.

High density lipoproteins (HDL cholesterol) – this is known as 'good cholesterol' as it transports fat away from your heart and blood vessels. The recommended level for HDL cholesterol is above 1mmol/l.

Triglycerides

Triglycerides are another type of fat produced in the body, which can become raised if you are overweight, eat too many sugary foods, or drink too much alcohol. The recommended level for triglycerides is less than 1.7mmol/l.

To help improve your cholesterol level, you need to cut down on saturated fats and replace them with monounsaturated and polyunsaturated fats. You also need to reduce the total amount of fat you eat, particularly if you are overweight.

 Monounsaturated fats are found in vegetable oils such as olive, rapeseed or groundnut oil, and nuts (almonds, cashews, hazelnuts, and peanuts). These are the least harmful types of fat as they help lower total cholesterol whilst maintaining levels of 'good' HDL cholesterol.

- Polyunsaturated fats include sunflower, soya or corn oil, and Omega 3 oils (found in oily fish).
- Saturated fats are found in butter, lard, suet, dripping, coconut oil, palm oil, full fat milk products including hard cheese, cream, cakes, biscuits, pastry, fatty meat, and meat products. Saturated fats raise total cholesterol and 'bad' LDL cholesterol.
- Trans fats (also known as hydrogenated fats) have a similar effect on the body as saturated fat. This type of fat is found in processed foods such as pies and pastries and should be avoided.

Choosing healthier fats can protect your heart, but remember all fats are high in calories. Large amounts of any type of fat will contribute to weight gain.

Remember **FAT** = Frequency, Amount, Type.

Eatwell Guide



"Eatwell Guide" contains public sector information licensed under the Open Government Licence v3.0.

Choosing healthier and lower fat foods

Avoid these foods	Replace with these foods	
Butter, ghee, lard, dripping, suet, coconut and	Olive, rapeseed, or ground nut oil for cooking	
palm oil	Reduced fat or "light" spreads based on olive or monounsaturated oil	
Hard cheeses such as cheddar, stilton, double Gloucester	Cottage cheese, extra light soft cheese, half fat edam, quark, ricotta.	
Full fat soft cheeses including brie, camembert, cream cheese		
Full fat milk	Skimmed, 1% or semi skimmed milk.	
Evaporated and condensed milk	Soya milk (unsweetened with added calcium)	
Full fat yoghurt	Low fat, low sugar, or diet yoghurts,	
Cream – all types	Fromage frais	
	Half fat crème fraiche / Greek yoghurt	
Fatty meat and meat products such	Leaner cuts of meat and mince	
as streaky bacon, luncheon meat, salami, sausages, pâté, corned beef	Remove visible fat/skin before cooking.	
Skin and fat round meat and poultry	Fish and poultry are lower in fat than	
Pies and pastry	red meat.	
	Quorn, Tofu.	
Biscuits	Plain biscuits –rich tea, morning	
Cakes	coffee	
Chocolate	Plain popcorn	
Crisps	Sugar free jelly	
Ice cream	Plain scones/teacakes	

Healthier food preparation

- Remove visible fat from around meat, and the skin from poultry before cooking.
- Choose a low fat, monounsaturated spread and spread thinly on bread.
- Consider spreading fat only on one half of a sandwich. If you have a moist filling, you should not need any spread at all.
- Use less fat when cooking avoid frying. Try to grill, steam, poach or bake instead.
- If you have to fry, use a non-stick pan with only a small amount of olive oil (suitable for frying), rapeseed or groundnut oil. Using a spray version of these oils will help you to use less.
- When cooking mince, drain all the fat off before adding other ingredients.
- Swap cream for low fat natural yoghurt or low-fat crème fraiche/diet yoghurts in recipes.
- Grate cheese for salads/sandwiches it will go further.
- Use a strong variety of cheese you will need less for a cheesy flavour.
- Choose tomato-based sauces for pasta, rice, and casseroles they are lower in fat than creamy alternatives.
- Be aware of the fat in salads like Caesar salad, potato salad, coleslaw. Avoid adding mayonnaise/salad cream and other salad dressings. Choose low fat/low calorie dressings or better still avoid them.

Fish and omega-3

Fish is low in fat and high in protein and a good choice at mealtimes. Oily fish such as: mackerel, salmon, sardines, pilchards, fresh or frozen tuna (not tinned), herrings, kippers, sprats, and trout, contain omega-3 fats.

Omega-3 helps to:

- Reduce the stickiness of blood, which can help prevent blood clots forming within blood vessels in the body.
- Reduce inflammatory markers in the body, high levels of which have been linked to increased risk of heart disease and stroke.
- Reduce blood pressure and levels of 'bad' cholesterol and triglycerides.

How much should I eat?

Try to eat fish twice a week, including **one portion of oily fish**.

What is a portion?

140g cooked weight. This is about the size and thickness of your hand.

Healthier Fish:

Try to avoid fish tinned in brine as this is high in salt. Where possible, choose fish tinned in tomato or spring water and **not oil**.

Tinned tuna does not contain omega-3. Only fresh or frozen tuna can count towards your omega-3 requirements.

White fish such as cod, haddock, pollock or sole are low in omega-3 but are still a good source of protein and are low in fat, so should still be included in a healthy diet.

Take care: maximum intake.

The Food Standards Agency recommends a maximum intake of 4 portions of oily fish for adults per week (total amount 560g/20oz). This is because there is no evidence to suggest eating above this level has any further health benefits, and certain fish may contain pollutants that can be toxic if eaten in large amounts.

If you are pregnant, the guidelines for fish are different. Please speak to your dietitian for advice.

Ideas for increasing oily fish in your diet.

- Add to Jacket potatoes, sandwiches, wraps or crackers.
- Make a fish pâté and add to toast or crackers.
- Add to salads.
- Have oily fish and tomatoes on toast.
- Serve steamed or grilled with potatoes or rice and vegetables or salad.
- Use in fish cakes or fish pies.

- Make a kedgeree (a dish consisting of flaked fish, boiled rice, and eggs).
- Stir fry with noodles and vegetables.
- Make a chowder soup (a thick soup containing fish and vegetables).
- Use to top homemade pizza.

What if I am unable to eat oily fish?

The best source of omega-3 from non-fish sources is flaxseed oil (also known as linseeds). The suggested amount is 3 teaspoons per week. Try to spread this out in the week rather than having it all in one go.

Flaxseed oil is not recommended for cooking and should be stored in dark bottles away from heat and light to retain its properties.

If you dislike/don't eat oily fish or are vegan/vegetarian speak to your dietitian for further advice.

Fish oil supplements

There is no evidence that Omega-3 supplements such as fish oil capsules help to prevent heart disease and stroke.

Fruit and vegetables

Eating plenty of vegetables, salad and 1 to 2 portions of fruit a day can reduce the risk of heart disease, stroke, and certain types of cancer. This is because they:

- Can help to prevent damage to blood vessels and protect your heart.
- Can help to reduce cholesterol levels and keep your bowel healthy.
- Are low in calories which can help you achieve or maintain a healthier weight.
- Contain potassium* which can help reduce, prevent, or delay the onset of high blood pressure.

*Foods high in potassium can be harmful in people who have renal disease or have had a recent kidney transplant. It is vital to seek further advice from a dietitian before following the advice in this section.

How much should I eat?

Five portions of a variety of fruit and vegetables a day ("5-a-day") is recommended.

What counts?

Fresh, frozen, juiced, dried and tinned fruit and vegetables.

What is a portion?

A portion of fruit and vegetables is about 80g or 3 ounces. This equates to any of the following:

Food	Size of one portion
All vegetables such as cauliflower, cabbage, peas, carrots, swede, courgettes, broccoli, green beans	3 heaped tablespoons
All pulses, lentils, and beans*	3 heaped tablespoons
Salad	1 dessert bowl
Whole fresh fruit	1 apple, 1 pear, 1 orange, 1 banana, 1 peach
Tinned fruit, fruit salad, stewed fruit	3 - 4 heaped tablespoons
Large fruits	1 slice melon or pineapple ½ grapefruit
Small fruit	2 plums, 2 satsumas, 2 kiwi fruits, 1 small handful cherries, berries or grapes
Dried fruit	1 tablespoon
Fruit juice	1 small glass (150ml) or individual carton

*Pulses, lentils, and beans such as kidney beans, baked beans, haricot beans and chickpeas count but only as 1 portion regardless of how much you have. This is because they contain fewer nutrients than other fruit and vegetables.

Fruit or vegetable juices and smoothies generally only count as 1 portion regardless of how much you have. Fruit juices and smoothies are high in sugar and calories and are therefore not suitable for people with diabetes or those struggling to achieve or maintain a healthy body weight.

If you have diabetes, try not to have more than one piece of fruit including dried fruit at any one time and ideally no more than 3 portions spread throughout the day.

Potatoes, yam, plantain, and cassava do not count towards your 5 a day. This is because they are carbohydrate (starchy) foods.

How to achieve 5 a day

Breakfast

Add a chopped banana or handful of dried fruit to a bowl of wholegrain cereal and a glass of fruit juice.

Lunch

Add a side salad to a sandwich or a bowl of homemade vegetable soup and have fruit for dessert.

Dinner

Add extra vegetables to the main meal including adding extra vegetables and pulses to casseroles, curries, and stews.

Have fruit for dessert including tinned or stewed with custard or fruit salad.

Snacks

Have fruit or eat raw vegetable sticks with a hummus or healthy low-fat dip.

Nuts, pulses, and lentils.

Pulses and lentils can count towards one portion of fruit and vegetables per day. However, along with nuts, they have other heart health benefits.

You should aim to have 4 to 5 portions of nuts, pulses, or beans per week.

Good examples of beans include broad beans, butter beans, pinto beans, haricot beans, black-eyed beans, adzuki bean, edamame, red kidney beans and soya beans. Note that green beans, runner beans and French beans are not included (but still contribute to your 5 portions of fruit and vegetables per day).

Good examples of nuts include **unsalted** peanuts, hazelnuts, walnuts, pistachio, almonds, cashews, pecans, macadamia.

What is a portion?

- 3-4 tablespoons of beans, lentils, chickpeas, and peas.
- 2 tablespoons of nuts unsalted, unroasted, and uncoated.

Ideas for increasing nuts and pulses in your diet:

- Add nuts to cereals, yoghurts, and fruit salads.
- Include nuts in savoury dishes like salads, soups, curries and stir fries.
- Have a small handful of nuts as a snack.
- Make soups with added lentils or beans.
- Add lentils, beans and chickpeas to chillies, casseroles, and curries.
- Add mixed beans to salads.
- Try low fat hummus or bean dips with vegetable sticks.

Fibre

There are **2 types** of fibre that have different roles in maintaining health. Eating plenty of fibre is associated with lowering your risk of developing heart disease, stroke, type 2 diabetes, and bowel cancer.

Insoluble Fibre - helps to prevent constipation and maintain adequate bowel health along with a sufficient intake of fluids per day (6-8 glasses or 3-4 pints or 1500-2000mls).

Insoluble fibre is found in wholemeal and granary bread, wholemeal pasta, high fibre/ wholegrain cereals and in the skins of jacket potatoes. It is also found in smaller amounts in brown rice.

Soluble Fibre - helps to lower cholesterol levels and can also regulate blood sugar levels. Soluble fibre is found in oats, fruits, vegetables, nuts, seeds, and pulses such as beans, lentils, and chickpeas.

How much should I have?

It is recommended to try and have at least 30g of fibre a day. The table below contains information on the fibre content of a variety of foods to help you to achieve the 30g per day target:

Food Category	Food Item	Grams (g) of fibre per portion
Breads and	Pitta Bread (wholemeal - 60g)	4
cereals	Rye bread (1 slice - 72g)	4
	Wholemeal roll (small)	3
	Wholemeal, wholegrain, and seeded bread (1	3
	large slice)	12
	All-bran cereal (40g)	5
	Muesli (60g)	4
	Fruit and fibre cereal (40g)	4
	Malted wheats cereal (42g)	3
	Porridge	4
	Weetabix (2 biscuit)	

		,
Potatoes	Quinoa (cooked weight 172g)	8
and starchy foods	Baked sweet potato wedges with skins (cooked weight 160g)	5
	Jacket potato with skin (medium size 220g)	5
	Mashed potato (standard portion 235g)	3
	Wholemeal pasta (cooked weight 172g)	6
	Bulgur Wheat (cooked weight 200g)	18
Fruit	Dried Apricots/figs(60g)	6
	Prunes (60g)	4
	Apple/grapefruit/nectarine/pear	3
	Raspberries (80g)	3
	Orange (large)	3
Vegetables/	Kidney beans (80g)	7
pulses/nuts	Peas (80g)	5
/seeds	Lentils (cooked weight 80g)	4
	Broccoli/green beans/Brussels sprouts/onion	3
	(80g)	10
	Baked beans (200g)	3
	Humus (50g)	3
	Linseeds (whole-1 tbsp-10g)	

Plant sterols and stanols

There is limited research to support these products. If you wish to use them, your dietitian can discuss this with you further.

These products contain live bacteria and can be harmful to people that are immunosuppressed (for example, if you have had a transplant). They are best avoided for the first few months after a transplant.

Products with added sterols and stanols should not replace cholesterol lowering medications.

Salt and blood pressure

Eating too much salt can cause high blood pressure which is a major risk factor for heart disease and stroke. Most foods contain salt, and generally the more processed the food, the higher the salt content. Current recommendations are no more than 6g per day (2.4g sodium or 1 teaspoon) for adults. The following advice will help you stay within these limits.

- Check food labels and choose foods lower in salt. Advice on how to read nutritional information on food labels is discussed under 'Food labelling'.
- Try not to add salt to cooking or at the table use herbs, spices, chilli, pepper, garlic, or lemon to flavour food instead. Ready-made spice mixes can have lots of added salt, so take care with these.
- Try to avoid the following high salt foods:
 - Processed foods such as burger, pizza, sausages, pies, and ready meals.
 - Savoury snacks such as crisps, salted nuts, chevda (Bombay mix) and pakora.
 - Smoked and cured meat and fish.
 - Tinned and packet soups and sauces, chutneys, and pickles.
 - Tinned food in brine or salted water choose foods tinned in spring water only. Avoid foods tinned in sunflower oil as this can be an unnecessary source of fat.
- Sea salt, table salt, garlic salt and vegetable salt are still forms of salt and have the same harmful effect if you consume too much.
- Salt alternatives are not recommended as they do not help you to become accustomed to having smaller amounts of salt in the diet. They can be dangerous in older people, people with kidney disease and people on certain medications who are unable to remove salt from their body effectively.

What else can I do to help lower my blood pressure?

Calcium

Ensuring you have an adequate calcium intake can also help lower your blood pressure as well as keeping your bones and teeth strong and healthy.

You can do this by including 2 - 3 portions of low-fat dairy products each day. As a rough guide a portion is:

- 200ml (1/3 pint) milk, including semi skimmed, 1% or skimmed and calcium enriched soya milk.
- 1x 125g (4oz) pot of low-fat/low sugar/diet yoghurt.
- 2 x 125g (4oz) pots low-fat/low sugar/diet fromage frais.
- 175g (6oz) cottage cheese (approx. ½ pot).
- 30g (1oz) low fat cheese size of a small matchbox.
- 60g (2oz/ ½ tin) canned fish including bones, such as sardines or pilchards.
- If you follow a plant-based or vegan diet and do not have any cow's milk products, remember to choose alternate products such as soya, oat, almond or rice-based products such as milk, yoghurts or cheese fortified with calcium - these should be fortified to the same level as their cow's milk alternative.
- If you would like further advice on non-dairy sources of calcium, please ask your dietitian.

Alcohol

Too much alcohol can affect both the heart and other organs in the body if taken in excess amounts. Regularly exceeding the daily guidelines even by only small amounts can lead to serious health problems.

Alcohol and weight

Alcohol is a source of calories therefore may make it difficult for you to achieve or maintain a healthy weight.

Alcohol and diabetes

Alcohol can affect your blood sugar levels. Further advice is available from your GP, Cardiac or Diabetes nurse or Dietitian if you are concerned. The recommended safe levels of alcohol intake are:

14 units per week for men and women.

If you are consuming as much as 14 units per week it is advisable to spread the total over 3 days or more.

Men and women should have 2-3 alcohol free days per week.

What is a unit?



Alcohol content is often expressed as a percentage of the whole drink. Look on a bottle of wine or a can of lager and you will see a percentage, either followed by the abbreviation 'ABV' (alcohol by volume), or sometimes just the word 'vol'. Wine that says '13 ABV' on its label contains 13% pure alcohol.

The alcoholic content in similar types of drinks varies a lot. Make sure that you check the label carefully, or you can end up consuming more units than you think.

Further information can be found on www.drinkaware.co.uk

Weight management

Making permanent lifestyle changes through a healthier well-balanced diet and active lifestyle will improve your overall health.

Being very overweight or obese can increase the risk of heart disease, stroke, diabetes, and some cancers. Losing 5-10% of body weight can help to reduce this risk as well as improve health and well-being.

Body shape

Carrying too much weight around your middle (being apple shaped) can increase your risk of developing heart disease, stroke, high blood pressure and diabetes.

You can assess this by measuring your waist (the level of the belly button) and looking at the below table.

Ethnicity	At risk if waist size of:
European, Sub Saharan African, Eastern Mediterranean and Middle Eastern men	Over 94 cm (37 inches)
South Asian, Japanese, and Chinese men	Over 90cm (35inches)
All women, regardless of ethnicity	Over 80cm (31½ inches)

If you are at risk or high risk, it may be a good time to consider some dietary and lifestyle changes to help you lose weight and improve your health.

Food labels

Understanding how to read food labels is important in helping you to choose a healthier diet and will help you to follow the advice in this leaflet.

Many food retailers and manufacturers use 'Reference Nutrient Intakes (RIs)' or 'Traffic Light' signposting.

RIs allow you to see the number of calories and grammes of sugars, fat, saturates or saturated fat, and salt per portion of food. Quantities are expressed as a percentage of the GDA.

What it all means:

Traffic light signposting tells you if a food has high (red), medium (amber) or low (green) amounts of each nutrient per portion.



- Foods with a red light should only be eaten occasionally.
- Foods with amber lights are fine to eat most of the time.
- Foods with green lights are the healthiest choices.

Most foods will have a mixture of colours. When you are choosing between products pick those with mostly green and amber.

Food labels may also list the amount of fat, saturated fat, sugars, and salt in 100g of product. The table on the next page will help you to make healthier choices. You can cut this out to take with you when you are shopping.

×------

All measures per 100g of product	A Little (green)	Average (amber)	A Lot (red)
Fat	3g or less	3.1 – 17.5g	More than 17.5g
Saturated Fat	1.5g or less	1.6 – 5g	More than 5g
Salt	0.3g (0.1g sodium) or less	0.31 – 1.5g (0.1 - 0.6g sodium)	More than 1.5g (0.6g sodium)
Sugar	5g or less	5.1 -22.5g	More than 22.5g

×------

Always make sure you still check foods that make claims such as 'light' or 'low fat'. A bag of crisps that claims to contain 25% lower fat may still contain a lot of fat.

Vitamins and mineral supplements

It is best to get your daily intake of vitamins and minerals from natural sources such as fruit and vegetables as part of a healthy diet.

Try to avoid taking supplements unless under medical supervision, as they can be harmful.

Vitamin D

All adults should consider taking a daily supplement containing 10 micrograms (400 international units) of Vitamin D especially during autumn and winter.

People over 65 years should take a supplement of 10micrograms of vitamin D per day.

If you are on a prescribed calcium supplement, you may find this already contains Vitamin D. Speak to your dietitian or pharmacist for further advice.

Smoking

Smoking is a leading cause of cardiovascular disease, and smokers are almost twice as likely to have a heart attack compared with people who have never smoked.

By stopping smoking, you'll be improving your own health by dramatically reducing your risk of coronary heart disease and stroke and a variety of cancers.

The risk to your heart health decreases significantly soon after you stop.

For help stopping smoking:

- Speak with your GP, practice nurse, or specialist nurse.
- Contact the NHS Smoke free helpline on 0300 123 1044.
- Visit the website www.nhs.uk/live-well/quit-smoking

Physical activity

The benefits of physical activity and exercise include:

- Strengthening your heart muscles.
- Reducing your cholesterol levels and blood pressure.
- Helping to achieve or maintain a healthy weight.
- Giving you more energy and reducing stress levels.

How much activity should I do?

Aim for 30 minutes moderate intensity exercise 5 times a week.

"Moderate intensity" means you are working hard enough to feel slightly warm and notice an increase in your breathing and heart rate, but not to the extent that you are unable to hold a short conversation. Examples include brisk walking, cycling or ballroom dancing.

It is also beneficial to include some resistance exercises on 2 or more days per week. Further information should be obtained from your Cardiac Physiologist.

How can I achieve this amount of activity?

If you are new to exercise, start slowly and build up gradually to the recommended amount.

You can break each 30 minutes down further into 10-minute blocks throughout the day such as a short walk or cycle, some housework or walking up and down stairs.

A pedometer is a great way to count your steps and increase walking.

For more hints and tips on achieving this level of activity, speak to a member of the Cardiac team, or your GP/Practice nurse.

Please note that if you have had a stroke or heart attack, it is important that you check with your doctor or healthcare team as to how much and how intense your activity should be.

Further support

Rugby Take Heart

A support group for cardiac patients and their friends and family.

Tel: 01788 663463

Website: https://rugbytakeheart.com

British Heart Foundation

www.bhf.org.uk

Tel: Heart Helpline 0300 330 3311

Stroke Association

www.stroke.org.uk

Tel: 0303 303 3100

Email: helpline@stroke.org.uk

Smoking Cessation

https://www.nhs.uk/live-well/quit-smoking www.ash.org.uk

Alcohol Support

www.drinkaware.co.uk

https://www.nhs.uk/live-well/alcohol-advice/alcohol-support/

For any further information contact the Dietetic Departments below:

UHCW, Coventry Dietitians contact Tel: 024 7696 6161

Hospital of St Cross, Rugby Dietitians contact Tel: 01788 663473

Thank you to members of Rugby Take Heart group for their involvement in the production of this leaflet.

The Trust has access to interpretation and translation services. If you need this information in another language or format, we will do our best to meet your needs. Please contact the dietetic department at UHCW on 024 7696 6161.

The Trust operates a smoke free policy.

Did we get it right?

We would like you to tell us what you think about our services. This helps us make further improvements and recognise members of staff who provide a good service.

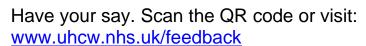




Image from NHS website contains public sector information licensed under the Open Government Licence v3.0.

Traffic light food image is from the NHS website and contains public sector information licensed under the Open Government Licence v3.0.

Document History

Department: Dietetics

Contact: 26161
Updated: February 2023
Review: February 2026
Version: 9.1
Reference: HIC/LFT/249/06