

Topic 1: The relationship between diet and health

A Balanced diet to provide the correct combination of food and nutrients

The importance of a healthy diet

We need to eat food in the correct balance for:

- Providing the energy we need to survive, to keep us healthy and to help fight disease.
- Growth and repair of body issue.
- All bodily functions, which depend on the energy and trace elements found in the food we eat.
- Stopping us feeling hungry.
- Health and well-being, as we find eating a pleasurable and enjoyable experience.

To have a **balanced diet**, you need to eat a mixture of foods from each of the main food groups and consume the correct amount of energy to carry out daily activities.



The Eatwell Guide

- The **Eatwell Guide** is a pictorial food guide showing the **proportions** and types of foods that are needed to make up a healthy, balanced diet.
- The Eatwell Guide can be followed by most people with the exception of children under two years.
- Children between the ages of two and five should start to follow the Eatwell Guide.
- If you have special dietary needs you should always check with a dietician or doctor how to adapt the Eatwell Guide to meet your specific needs.
- The Eatwell Guide is based on the five food groups.
- It shows the proportions of the different groups of foods you should eat,

How to use the major commodity groups to make a balanced food choice.



Fruit and vegetables

- Most people need eat more fruit and vegetables.
- Fruit and vegetables should be just over a third of the food eaten in a day.
- You should eat at least five portions of fruit and vegetables a day.
- Fruit and vegetables are a good source of vitamins, minerals and fibre.
- If you eat a lot of fruit and vegetables you are less likely to develop disease such as coronary heart disease and some types of cancer.

What is included

- Choose from fresh, frozen, tinned, dried or juice.
- All fruit and vegetables, including: apples, pears, oranges, bananas, grapes, strawberries, mango, pineapples, raisins, broccoli, courgettes, cabbage, peas, sweetcorn, lettuce, tomatoes, carrots, peas, beans, lentils.



Potatoes, bread, rice, pasta or other starch carbohydrates

- Eat wholegrain cereal products or higher fibre products such as whole wheat pasta and brown rice.
- Starchy food should make up just over a third of the food we eat.
- Starchy foods are a good source of energy and provide use with other nutrients for example vitamins and minerals.

What is included

- Bread, including: soda bread, rye bread, pitta, flour tortilla, baguettes, chapatti, bagels; rice, potatoes, breakfast cereals, oats, pasta, noodles, maize, cornmeal, polenta, millet, spelt, couscous, bulgur wheat, wheat, pearl barley, yams and plantains.

The Eatwell Guide also gives additional information on:

- Foods high in fat, salt and sugar.
- Hydration.
- Food labelling.



Dairy and dairy alternatives

- Milk, cheese, yoghurt and fromage frais are good sources of proteins, some vitamins, and calcium.
- You should eat some dairy or dairy alternatives every day.
- There are many low-fat and low-sugar products which can replace those with a higher fat and sugar content for example, 1% fat milk, reduced-fat cheese or plain low-fat or fat free yoghurt.

What is included

- Milk, cheese, yoghurt, fromage frais, quark, cream cheese.
- This also includes non-dairy alternatives to these foods.



Beans, pulses, fish, eggs, meat and other proteins.

- These foods are a good sources of proteins and other nutrients.
- Beans, peas and lentils are low in fat and are good alternatives to meat.
- It is recommended that we eat fish at least twice a week and one of these is oily fish, such as mackerel.
- Try to reduce red and processed meat to 70 grams per day.
- Some meat is high in fat (saturated).
- Choose lower-fat meat products, leaner cuts of meat and trim off any visible fat and skin.
- Use cooking methods that do not use any fat, and drain away fat. Grill, poach, steam, bake or microwaves.

What is included

- Meat, poultry and game, including: lamb, beef, pork, chicken, bacon, sausages, burgers; white fish including: haddock, plaice, pollock, coley, cod; oily fish including: mackerel, sardines, trout, salmon, whitebait; shellfish including: prawns, mussels, crab, squid, oyster; eggs, nuts, beans and other pulses, including: lentils, chickpeas, baked beans, kidney beans, butter beans.



Oils and spreads.

- Some fat is needed in the diet but most people need of reduce their intake of saturated fats.
- We should not use a lot of these products because they are often high in fat.
- Chose low fat spreads when possible.
- These foods are often high in calories so reducing the amount eaten can also help to control weight.

What is included

- Unsaturated oil, e.g. vegetable oil, rapeseed oil, olive oil, sunflower oil; soft spread made from unsaturated fats.

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Foods high in fat, salt and sugar

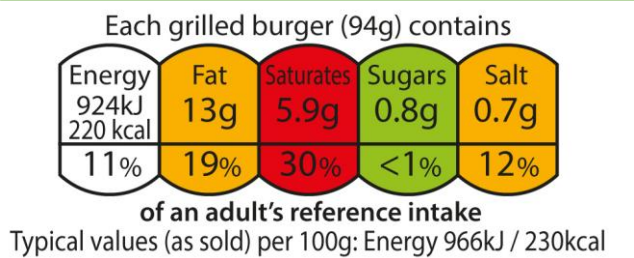
- These foods are not needed in the diet and should therefore not be eaten very often.
- If you eat these foods and drinks you should eat them in very small quantities.
- Food and drinks which contain a lot of fat and sugar are high in energy.
- You should check the food labels and choose foods which are low in fat, sugar, and salt.

Hydration

- Water, coffee, tea, lower fat milk, and sugar free-drinks all contribute to meeting your needs of six to eight glasses of fluid every day.
- Sugary drinks should be avoided and these should be swapped for sugar-free and non-added-sugar varieties.
- Fruit juice and smoothies do count, but they are also counted as **free-sugars**. You should not have more than 150ml of these a day.
- Alcohol also contains a lot of **calories** and adults should not consume more than 14 units a week.

Food Labelling

- Labels often show the nutritional information per serving.
- They also show the contribution the food makes to the daily amounts required.
- The use of colour helps you to easily see whether they are high in **saturated fats**, sugar and salt.



Cutting down on saturated fat

Reducing the amount of saturated fat eaten can:

- Reduce the risk of heart disease.
- Lower blood cholesterol.

Cutting down on sugar

Reducing the amount of sugar can reduce the risk of:

- Obesity
- Tooth decay.

When sugar is added to a product or a dish to make them sweeter or more **palatable** it is called free sugar. No more than five per cent of the sugar we eat should come from free sugars.

Age	Recommended maximum free sugars intake	Sugar cubes
4-6 years	No more than 19g/day	5 cubes
7-10 years	No more than 24g/day	6 cubes
From 11 years, including adults.	No more than 30g/day	7 cubes.

- Remember, sugary drinks are not needed and we should change these to water, **low fat** milk or sugar-free drinks.
- Although ingredients lists are required by law on food products, it is sometimes difficult to spot the difference between a free sugar and a **not free sugar**.

Free sugars		Not free sugars
- Cane sugar - Honey - Brown sugar - Dextrose Fructose	Sucrose - Maltose - Fruit juice concentrate - Corn syrup - Molasses	Sugars found naturally in food: - In fresh, dried or frozen fruits and vegetables. - In milk, cheese and natural yogurt.

Cutting down on salt

Reducing the amount of salt can:

- Reduce blood pressure
- Reduce the risk of heart disease
- Reduce the risk of a stroke.

Adults should have no more than six grams salt per day and children should have less.

Remember, salt is added to many foods that you buy, so you need to check the labels carefully.

How much food do I need?

- Everyone needs different amounts of energy to maintain a healthy body weight.
- The amount of energy we need depends on many different factors.
- If we do not use all the energy we consumer it will be stored as fat.

The government's guidelines for a healthy diet

The government recommendations are to use the Eatwell Guide as a model for healthy eating.

The government has also produced other guidance linked to healthy eating, including:

- Eight tips for healthy eating**
- 5 a day campaign.**



Application of the eight tips for healthy eating

The eight tips for healthy eating are clearly linked to the Eatwell Guide:

- Base your meals on starchy foods.
- Eat lot of fruit and vegetables.
- Eat more fish - aim for two portions a week and one of these should be oily.
- Cut down on saturated fats and sugars.
- Eat less salt – adults should eat no more than six grams per day.
- Get active and try to maintain a healthy weight,
- Don't get thirsty– drink plenty of water.
- Don't skips breakfast.

5 a day

This campaign:

- Encourage us to eat at least five portions of fruit and vegetables a day.
- Ensure a variety of vitamins, **minerals**, trace elements and fibre are in the diet.
- Promotes the inclusion of **antioxidants** and plant chemicals needed for good health.

Major diet-related health issues caused by a poor diet and lifestyle.

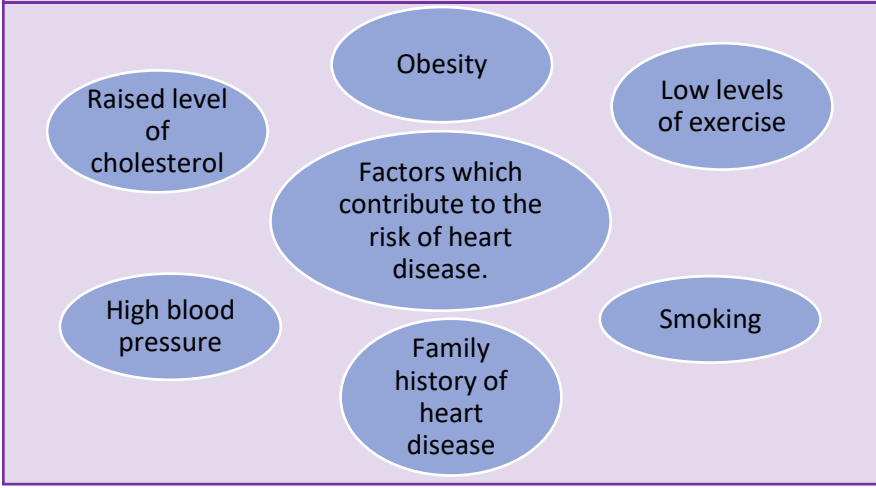
There are a number of disease and conditions caused by having a poor diet and lifestyle.

Obesity

The number of people who are overweight or obese in the UK is increasing.

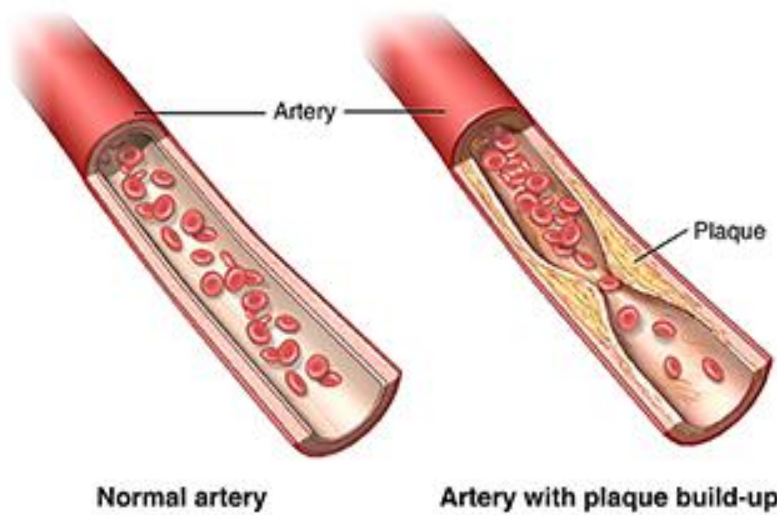
The main cause of being overweight is eating more food than the body requires, so that excess energy is store as fat. Being overweight is unhealthy because it put a strain on the organs of the body. It can cause:

- Heart disease
- High blood pressure
- Diabetes**
- Osteoarthritis
- Varicose veins
- Breathlessness
- Chest infections
- Unhappiness
- Low self-esteem
- May lead to depression.



Cardiovascular disease

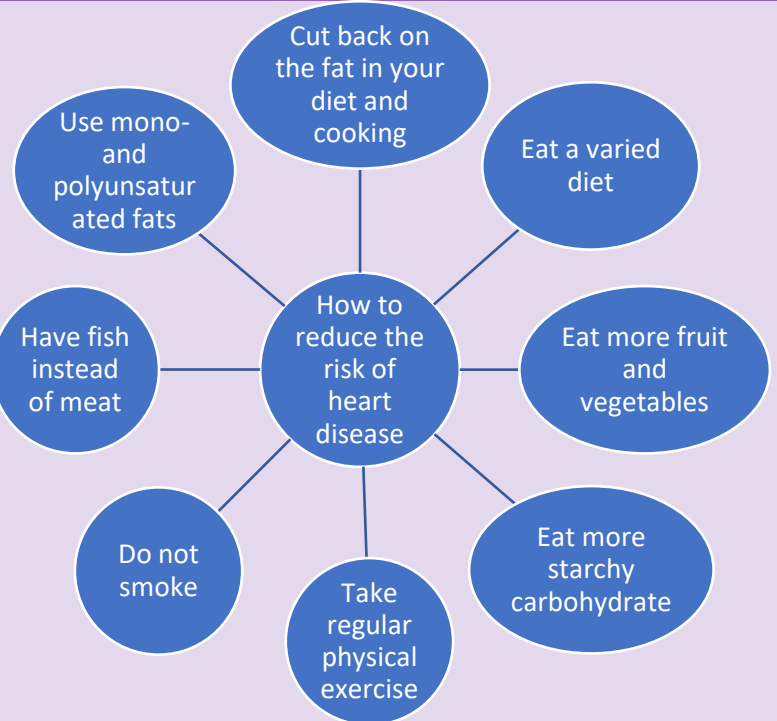
Cardiovascular disease is a term used to describe all different types of diseases of the heart and circulatory system. Blood flow to the heart, brain or body is reduced because of a blood clot or narrowing of the arteries. Coronary heart disease is one of the main types of cardiovascular disease.



Coronary heart disease

In the UK, coronary heart disease (CHD) is a major health problem and one of the main causes of death.

- CHD is linked to the amount of fat in the diet.
- A diet high in **saturated fat** is also likely to be high in cholesterol.
- Cholesterol is a substance made in the liver and carried in the bloodstream. It can build up and be deposited with other material as ‘plaque’ on the walls of the arteries.
- Blocked arteries can cause a person to heart attack which, if severe, can cause death.



High blood pressure

To reduce the risk of high blood pressure you should follow the advice given in the Eatwell Guide:

- Eat at least five portions of fruit and vegetables a day
- Eat a varied diet
- Reduce your fat intake
- Eat more **starchy carbohydrates**.
- Consume mono and **polyunsaturated fats**
- Reduce your salt intake
- Eat at least two portions of fish a week.

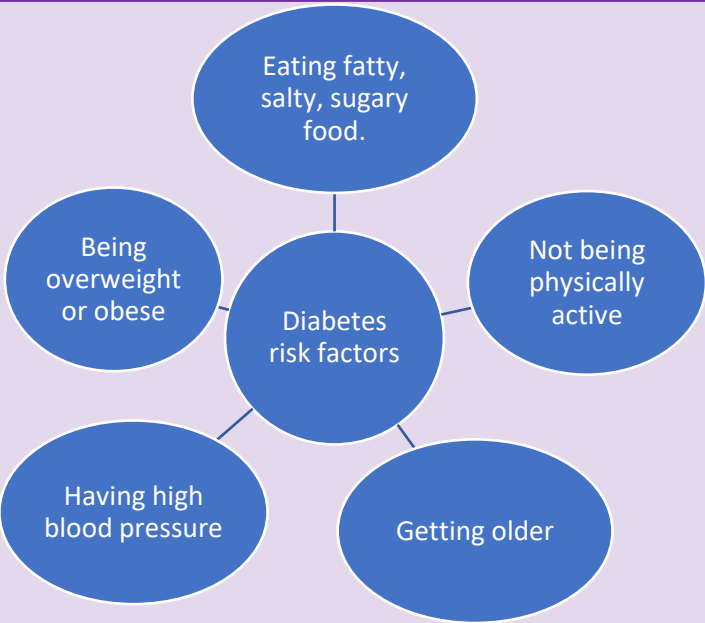
Diabetes

Diabetes is a medical condition where the glucose in the bloodstream is not balanced correctly.

- Glucose is carried in the blood to all body cells to supply them with energy.
- Insulin, a hormone produced by the pancreas, controls the amount of glucose in the bloodstream and stops it getting too high.

There are two types of diabetes:

- Type 1 - this is usually diagnosed in children and is caused by the pancreas not producing enough insulin.
 - Type 2 diabetes – this is usually diagnosed in older people, although there are younger people being diagnosed with this due to a poor diet.
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- Meals for diabetes should follow the guidance in the Eatwell Guide and include high-fibre, starchy carbohydrate foods such as potatoes, rice and pasta, but should be low in sugar and sweet food.



Diverticulitis

- **Diverticulitis** is a condition which affects the large intestine. It is often linked to having a diet which low in fibre (**non-starch polysaccharide** or **NSP**)
- The lining of the bowel becomes inflamed, infected and damaged. Symptoms of **diverticular disease** include pain and discomfort in the abdomen and feeling bloating.

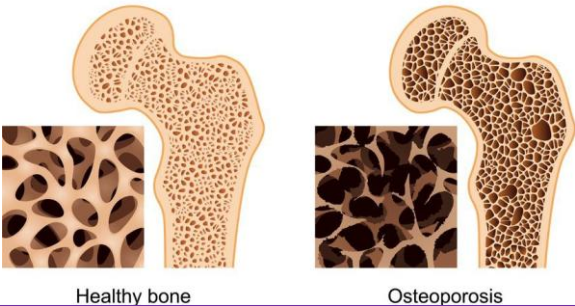
Bone Health (osteoporosis)

- Healthy bones do not break easily.
- Calcium and other minerals are gradually added to bones to strengthen them.
- Our bones are at their strongest between the ages of 20 and 35, when our peaks bone mass is reached.
- If we do not achieve peak bone mass then we are more likely to get **osteoporosis**. The bones start to lose minerals the bones brittle and break.

You will increase your likelihood of osteoporosis:

- If other people in your family suffer from broken bones – genes.
- If you take some medication.
- If you smoke.
- If you have low body weight.
- If you have had broken bones before.
- If you are a women.
- If you consume a lot of alcohol.
- As you get older – your bones weaken.

Osteoporosis



Dental Health

- To maintain healthy teeth you need to have a balanced diet based on the Eatwell Guide.
- Tooth decay is caused when the **bacteria** in your mouth (plaque) feed on the sucrose to produce an **acid**. The acid then causes small holes in your teeth (dental caries)
- Sugar found naturally in fruit and vegetables are not as harmful, as they are less likely to lead to tooth decay and are easier for the body to absorb.

Anaemia

Anaemia, caused by a lack of **iron** in the diet, is one of the most common nutritional problems worldwide.

- we need iron it forms haemoglobin, which gives blood its red colour and carries oxygen around the body to the cells.
- Teenage girls and women must make sure they have enough iron in their diet to cope with menstruation.
- Pregnant women need a good supply of iron to support the baby’s blood supply.
- Symptoms of anaemia are tiredness and lack of energy.
- Good sources of iron are found in liver and kidneys, red meat, oily fish and leafy green vegetables.
- In the UK, some food are **fortified** with iron, e.g. breakfast cereals and flour.
- Vegetarians need to ensure that they get an adequate supply of iron from bread, pulses and vegetables.

Test yourself

State which two sections of the Eatwell Guide are the largest. [2 marks]

Explain why the Eatwell Guide is useful for consumer. [4 marks]

Name two foods which are found in the oils and spreads section of the Eatwell Guide. [2 marks]

Give two examples of not free sugars. [2 marks]

Give two examples of free sugars. [2 marks]

Give four of the eight tips for healthy eating. [4 marks]

Explain why we are encouraged to eat at least five portions of fruit and vegetables. [4 marks]

State two causes of heart disease. [2 marks]

State three changes that a person with heart disease should make to their diet. [3 marks]

Explain the difference between type 1 and type 2 diabetes. [2 marks]

Name two symptoms of diverticulitis. [2 marks]

State three factors which could increase your risk of osteomalacia. [3 marks]

Explain how tooth decay is caused. [2 marks]

Name two groups of people most at risk of suffering from anaemia. [2 marks]