

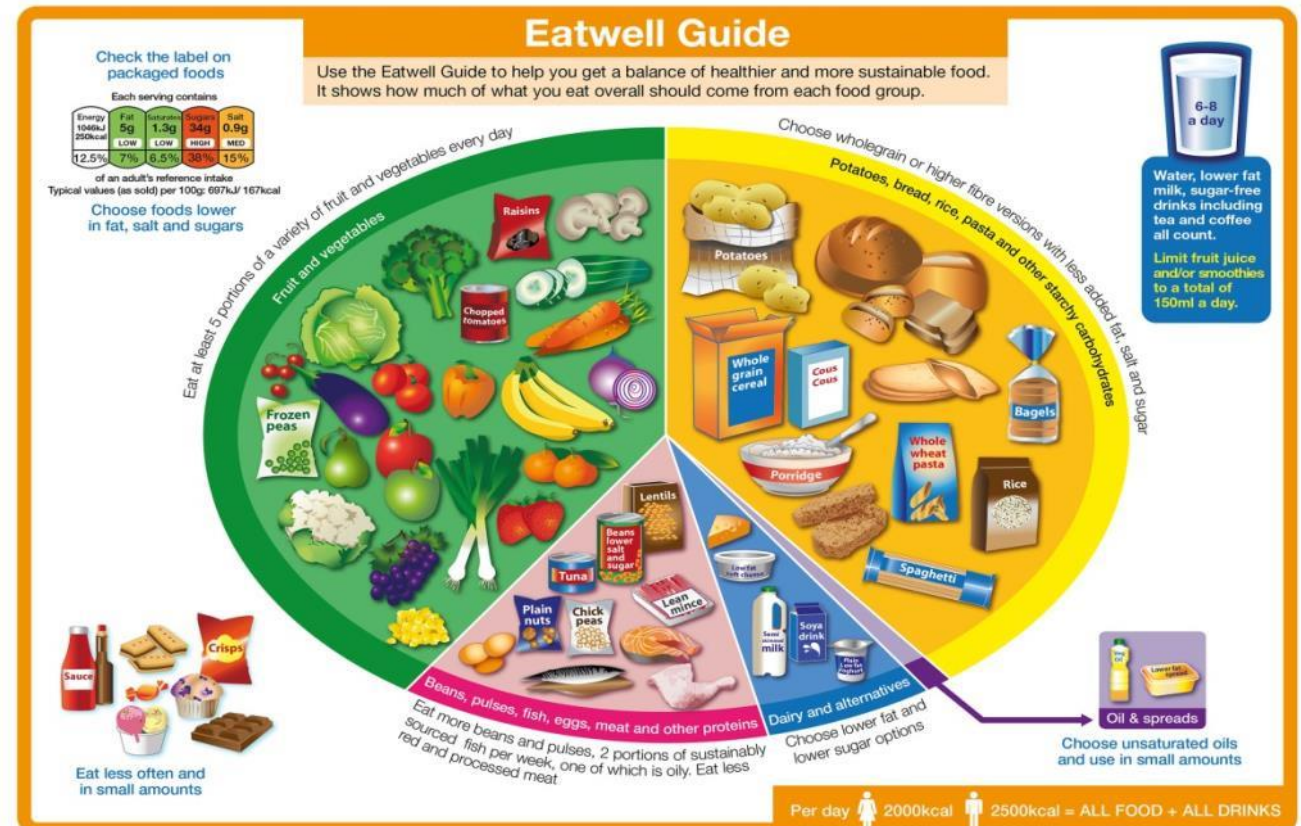


# Diet and health

# A balanced diet

A balanced diet is based on the Eatwell Guide.

An unbalanced diet can lead to dietary related diseases.



## Malnutrition

Having intakes of energy and/or nutrients below or in excess of needs for long periods of time can affect health. This is called malnutrition.

Severe under nutrition (having an intake of energy and/or nutrients below what is needed) is rare in the United Kingdom, but can be common in some developing countries. However, under nutrition does occur in the UK, e.g. micronutrient deficiencies.

Children suffer the effects of starvation (not enough food) more quickly than adults.

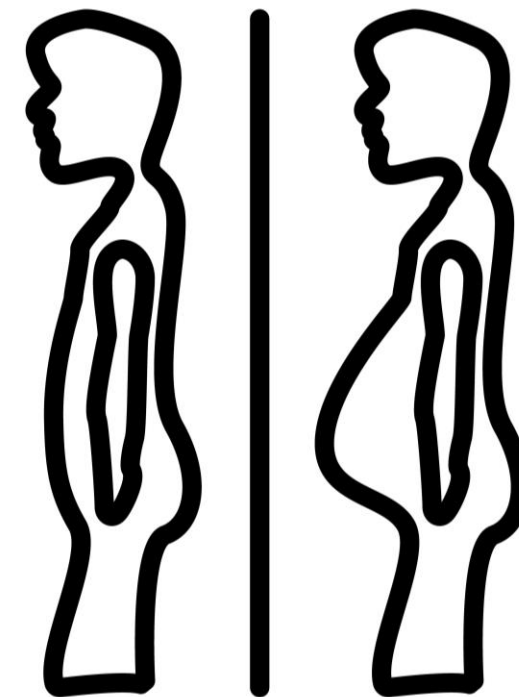


## Undernutrition

Worldwide, Kwashiorkor and marasmus are two common diseases caused by a lack of protein and energy.

Fat soluble vitamins (A, D, E and K) and minerals are stored in the body so it takes time for deficiency diseases to develop.

Water soluble vitamins are not stored in the body so low intakes usually lead to signs of deficiency relatively quickly.

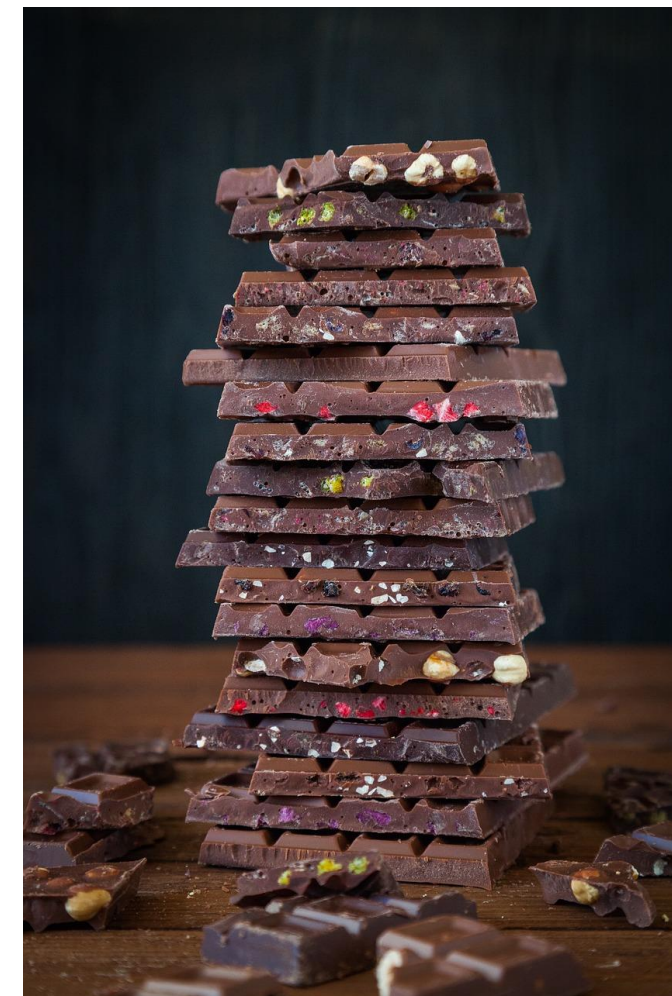


kwashiorkor

## Over nutrition

Over nutrition is a problem usually associated with developed countries, such as the United Kingdom.

The most common over nutrition problem is obesity caused by too much energy being consumed, or high levels of inactivity.





# Cancer

Cancer is a complex disease which can take a long time to develop.



A wide variety of factors are involved in the development of cancer, including:

- age;
- genetics;
- environment;
- hormones;
- infections.

# Cancer

Cancer occurs when abnormal cells in the body develop and increase rapidly. The abnormal cells can also spread to other parts of the body and multiply.

Cancer can occur in different parts of the body.

In the UK, the most common cancers in men are lung, prostate or bowel cancer. The most common cancers in women are lung, breast or bowel cancer.

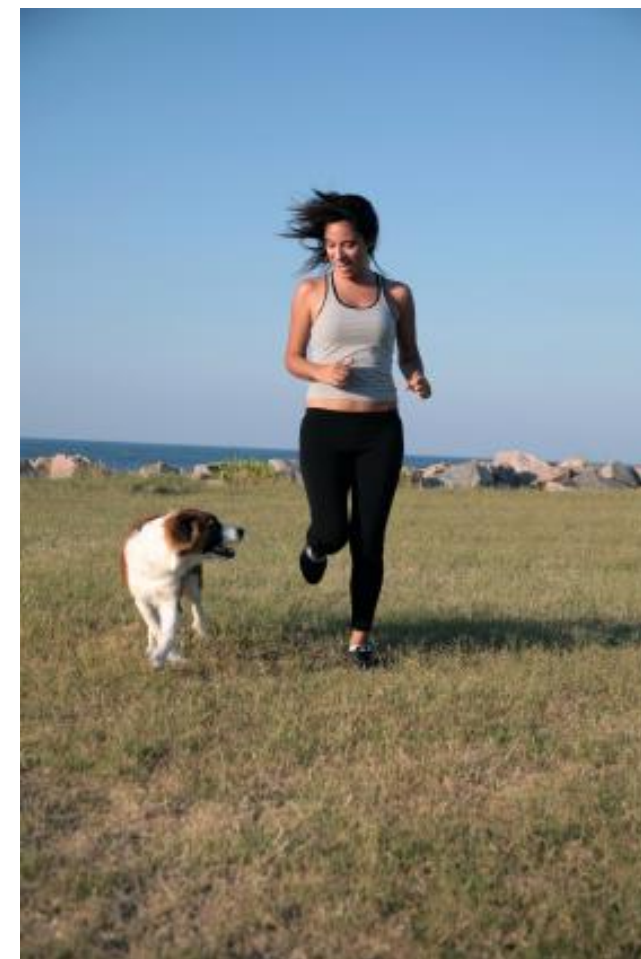




# Cancer prevention

The World Cancer Research Fund has released nine cancer prevention recommendations.

- Be a healthy weight.
- Move more.
- Avoid high-calorie foods and drinks.
- Enjoy more grains, veg, fruit and barley.
- Limit intake of red meat and avoid processed meat.
- Don't drink alcohol.
- Eat less salt.
- Don't rely on supplements.
- Breastfeed your baby.



## Coronary heart disease

Coronary heart disease (CHD) is caused by a narrowing of the blood vessels to the heart. This reduces the flow of blood to the heart.

If one of the blood vessels becomes completely blocked, the blood supply to part of the heart stops and that part is damaged. This is called a heart attack.



## Coronary heart disease

It is estimated 7 million people in the UK are living with Coronary heart disease (CHD), which costs the NHS £6.8 billion a year. CHD is the leading cause of death in the UK, with around 1 person dying from CHD every 8 minutes.

However, it is believed 80% of CHD and strokes could be prevented by changes to lifestyle factors, such as diet, physical activity and smoking.



## Body Mass Index (BMI)

The chance of suffering from CHD is affected by many factors. These are called risk factors.

Factors that increase the risk of CHD include being:

- male;
- older;
- a cigarette smoker;
- overweight;
- inactive;
- stressed.

Factors that increase the risk of CHD also include having:

- a family history of CHD;
- high blood cholesterol level;
- high blood pressure;
- high intake of saturated fats;
- diabetes.

# Coronary heart disease

Changes to the diet to reduce the risk of CHD include:

- increasing oily fish intake;
- reducing salt intake;
- increase fruit and vegetables;
- decreasing alcohol consumption.



## Physical activity

If a person regularly consumes more energy from food and drink than they need, they will start to gain weight, eventually becoming overweight. For example, energy in > energy out.

Extra energy from food and drink is stored in the body as fat. There are a range of weights which are considered healthy for a given height. These can be calculated by calculating BMI (Body Mass Index).

$$\text{BMI} = \frac{\text{weight (kg)}}{\text{height (m)} \times \text{height (m)}}$$

Recommended BMI range	
Underweight	Less than 18.5
Normal	18.5 – less than 25
Overweight	25 – less than 30
Obese	30-40
Very obese	Over 40

# Obesity

People who are obese are more likely to suffer from:

- coronary heart disease;
- type 2 diabetes;
- gall stones;
- arthritis;
- high blood pressure;
- some types of cancers, i.e. colon, breast, kidney and stomach.



## Bone health

Calcium is important for strong bones. Vitamin D is needed for calcium to be absorbed from food.

Osteoporosis is a disease where bones become weak, brittle and break easily. It is caused by severe losses of calcium.

During childhood, adolescence and early adulthood, calcium and other substances are added to the bone. This makes it stronger.

After the age of 30-35, bone loss begins. After the menopause women lose bone at an increased rate.





## Bone health

Strong bones contain plenty of calcium and their strength is affected by:

- genetics;
- sex;
- diet;
- exercise;
- body weight;
- hormones.



Consuming adequate amounts of calcium and vitamin D throughout life will help with bone health and strength.

# Anaemia

The mineral iron is vital for making red blood cells. Iron from the diet forms haemoglobin, which carries oxygen in the blood.

If the body's store of iron is low and there is too little iron in the diet, the symptoms of iron deficiency anaemia will start to develop. This is particularly common in young women who have higher iron requirements due to their menstrual cycle.

Iron from animal sources is generally more easily absorbed than iron from plant sources. Vitamin C increases absorption of iron from plant sources.



# Diet and health



For further information, go to:  
[www.foodafactoflife.org.uk](http://www.foodafactoflife.org.uk)

This resource meets the [Guidelines for producers and users of school education resources about food.](#)