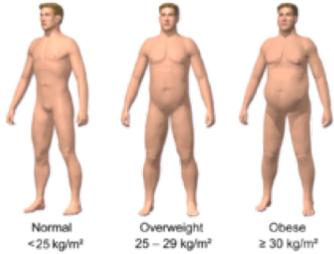


Dietary related diseases

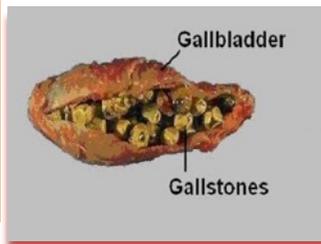
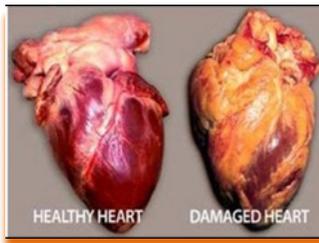
Obesity and Body Mass Index (BMI)

$$\text{BMI} = \frac{\text{weight (kg)}}{\text{height (m)}^2}$$



Obesity occurs when energy intake from food and drink consumption is greater than energy expended over a prolonged period of time. BMI is a measure of whether someone is a healthy weight for their height. A BMI of 30 or above means that you are considered obese. Obesity puts pressure on your joints and leads to other health complications such as diabetes, heart disease and some cancers. Eating a balanced diet whilst combining exercise can help prevent obesity.

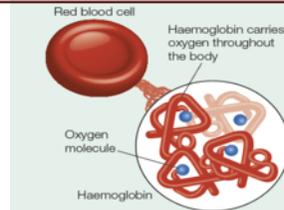
Coronary heart disease can lead to a heart attack and death. It can be caused through too much saturated fat in the diet. Saturated fat contains low density lipoproteins LDL (bad) which raise blood cholesterol levels and clog arteries. To prevent CHD – have a diet low in saturated fats and higher in unsaturated fats, eat plenty of fibre, eat at least 5 portions of fruit and veg daily, limit alcohol and increase exercise



Type 2 diabetes occurs when the body doesn't produce enough insulin to function properly, or the body's cells don't react to insulin. This means glucose stays in the blood and isn't used as fuel for energy. Type 2 diabetes usually affects people who are older or overweight. Diabetes can lead to vision loss, kidney failure, heart disease and stroke.

Iron deficiency anaemia is a diet related condition caused by a deficiency of iron in the blood. The body needs iron to make haemoglobin. Anaemia can affect everyone but mainly women during menstruation. Vitamin C is needed to help absorb iron and Vitamin B9 and 12 are needed to make haemoglobin

Cardiovascular health include: CHD and high blood pressure (Stroke)



Gallstones can be caused by too much saturated fat in the diet. The cholesterol in the saturated fat turns into stones in the gallbladder.

Fatty liver disease is the term for a range of conditions caused by a build-up of fat in the liver. It's usually seen in people who are overweight or obese. You're at an increased risk of this if you: Are obese or overweight – particularly if you have a lot of fat around your waist. have type 2 diabetes have high blood pressure have high cholesterol

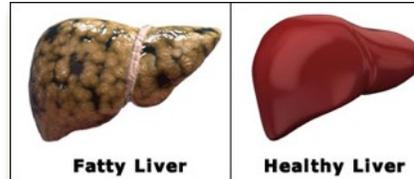


A stroke is when blood to the brain is restricted. One cause is **high blood pressure (hypertension)** caused by too much salt in the diet. This causes the vessels to the brain to burst. Another can be too much saturated fat which blocks the blood vessels.



A major problem of eating too much sugar is **tooth decay**. The correct term for this is dental caries. The acid erodes the enamel on the teeth leaving a hole which bacteria can enter and cause an infection and eventual decay. Avoid too much sugar, sugary drinks and snacking between meals

Skeletal disease: osteoporosis and rickets, tooth decay



Osteoporosis is the name given to a natural aging process that happens later in life. It can happen earlier. Osteoporosis means porous bones.

Rickets is the name given to deficiency of Vitamin D in Children. A lack of vitamin D in adults leads to osteomalacia



Nutrient requirements for different groups of people – Special Diets (Religious, Medical, Ethical)

Medical Diets	Religious Diets	Ethical Diets
<p>Nut & other allergies Must avoid particular allergen, otherwise an allergic reaction may occur. Serious allergic reactions can result in anaphylaxis and even death.</p> <p>The 14 common allergens which must be declared on menus and food packaging are: Celery, Gluten, Crustaceans, Eggs, Fish, Lupin, Milk, Molluscs, Mustard, Nuts, Peanuts, Sesame, Soya, Sulphites.</p>	<p>Halal (Muslim) Also known as Islam Halal is Arabic for permissible. Halal food is that which adheres to Islamic law, as defined in the Koran.</p> <p>Haram is the opposite to Halal and describes food which is not permitted under Islamic law. Haram items that Muslims will not consume include pork and all pork products as well a alcohol. Meat must be slaughtered by halal methods.</p>	<p>Lacto ovo vegetarian Vegetarians do not eat any flesh – they do not eat meat, poultry or fish/shellfish.</p> <p>A lacto-ovo vegetarian will eat dairy products and eggs. These are classed as your regular vegetarians</p>
<p>Lactose intolerance People who are lactose intolerant do not make the digestive enzyme which is needed to digest lactose (a milk sugar found in dairy products). If they consume lactose, they will experience digestive discomfort including cramps, excess wind and diarrhoea. Lactose intolerant people can consumer lactose free milk and dairy products or dairy alternatives. They must be careful to ensure they get enough calcium in their diet.</p>	<p>Kosher (Judaism) Judaism instructs its followers to observe a kosher diet, this means no pork or shellfish.</p> <p>Kosher food also does not mix dairy products and meat in the same meal/course. For example, a burger must be served without cheese.</p>	<p>Lacto vegetarian A lacto vegetarian won't eat eggs but will eat dairy products.</p>
<p>Coeliac Coeliac disease sufferers react to the presence of gluten, a protein found in wheat, rye and barley. Symptoms are bloating, sickness and lack of energy due to nutrients not being absorbed. A wide range of gluten free foods are available which use alternatives such as rice flour, buckwheat, corn, maize, potato.</p>	<p>Hindu Followers of the Hindu religion do not eat Beef, as they believe it is a sacred animal. Strict Hindus are vegetarian.</p> <p>Sikhism Many Sikhs are vegetarians. Some Sikhs do not drink alcohol, tea or coffee</p>	<p>Vegan Vegans avoid consuming any animal products – including milk and dairy products,</p> <p>Protein is a nutrient which can be lacking in a badly planned vegan diet – vegans can eat wholegrain cereals, nuts, beans, lentils and tofu.</p> <p>Calcium may be lacking in a vegan diet – some vegans replace dairy with calcium fortified alternatives such as soya milk or almond milk.</p> <p>Vitamin B12, iron, selenium and Omega 3 might be missing. Quorn is not vegan as it has egg white in it.</p>
<p>High Fibre diet Some people need to increase their NSP (dietary fibre) to avoid developing problems with their digestive system such as: constipation, diverticula disesase, cancer of the colon or rectum.</p> <p>Avoid refine and processed foods ie: white bread & rice</p>	<p>Buddhist Buddhists are usually vegetarian and do not consume meat or fish. Many are vegans. All avoid alcohol.</p>	<p>Coronary Heart Disease People who are diagnosed or at risk of Coronary Heart Disease are currently recommended to adopt a low sugar, low saturated fat, high fibre and fruit and vegetable Mediterranean style diet.</p>

Nutrient requirements for different groups of people – Age Groups

Nutrition through life differs mainly due to the need for energy and protein for growth and development – in younger age groups, growth and development occurs, in older age groups only maintenance of the body is required, therefore protein and energy requirements are reduced.

GENDER affects nutritional requirements after puberty – before puberty male and female requirements are the same. Puberty causes girls to begin menstruation, increasing their iron needs, which remain higher than men until the menopause which occurs around 50 years of age. Generally males are physically larger than females and therefore need to consume more energy and protein on a daily basis.

PHYSICAL ACTIVITY LEVEL affects a person's' energy requirements. The more active a person is, the more energy they need. It is recommended that extra energy requirements come from extra starchy carbohydrate in the diet,. Increased PAL could be from having an active job or from playing lots of sport.

<p>Babies and Toddlers</p> <ul style="list-style-type: none"> • Milk only for first 4-6 months • Weaning occurs from 6 months – introduce a wide variety of textures and colours • Avoid nuts (choking hazard), fried foods, salt and sugar 	<p>Pre-school children</p> <ul style="list-style-type: none"> • Balanced diet needed. • High needs for energy (CHO and B vitamins) and protein due to rapid growth and constant movement • Full fat dairy products should be consumed • Salt and sugar should be avoided • Good eating habits should be established with 3 balanced meals and healthy snacks 	<p>Children</p> <ul style="list-style-type: none"> • Balanced diet needed – in line with Eatwell Guide • High needs for energy (CHO and B vitamins) and protein due to rapid growth and constant movement • 5-a-day is recommended • Calcium • High fibre for a healthy digestive system
<p>Teenagers</p> <p>Increased needs for iron in teenage girls due to menstruation Calcium intake & vitamin D are really important to ensure Peak Bone Mass is reached – setting up bone health for life <i>Many UK teenagers are lacking in calcium, iron, vitamin A and B12 and eat too much saturated fat, salt and sugars.</i></p>	<p>Adults</p> <p>No more growth means less energy is needed for adults than teenagers Well balanced diet modelled on the Eatwell Guide essential. <i>Many UK adults eat too much fat, too much salt and not enough fruit and vegetables.</i></p>	<p>Elderly</p> <p>Sedentary older people will have reduced energy requirements. Calcium and vitamin D are still very important to prevent osteoporosis. Some elderly people do not get outside much and can be at risk of Vitamin D deficiency Sometimes elderly people may have issues getting access to food due to mobility issues, they may also be at risk of lack of variety of nutrients due to poor absorption. Dental problems can require softer foods.</p>

Pregnancy & Lactation

Because the body becomes more efficient at absorption during pregnancy, normal nutritional requirements apply until the last third of pregnancy, when some extra energy and calcium /vitamin D are required. Pregnant and lactating ladies should eat a varied diet rich in fresh fruit and vegetables and wholegrains (in line with the Eatwell Guide). Early in pregnancy extra B9 folate/folic acid should be taken to reduce the risk of the foetus developing spina bifida. May need additional fibre to prevent constipation and iron/vitamin C to prevent anaemia.

There are some foods to avoid:

- Unpasteurised milk products and undercooked meats/cured meat products – they may contain listeria which is harmful to unborn babies
- Pate, liver and liver products – due to high vitamin A content (Vitamin A is harmful to unborn babies if eaten in large quantities)
- Swordfish, marlin and shark as they are high in mercury which can be harmful to unborn baby,