

AC1.2 Special Diets: Compare the nutritional needs of different groups of people.

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), salt and sugar. <p>Pre-school children</p> <ul style="list-style-type: none"> • Balanced diet needed – in line with Eatwell Guide from 12 months • High needs for energy and protein due to rapid growth and constant movement • Full fat dairy products should be consumed • Salt and sugar should be avoided 	<p>Children</p> <ul style="list-style-type: none"> • Balanced diet needed – in line with Eatwell Guide from 12 months • High needs for energy and protein due to rapid growth and constant movement • 5-a-day is recommended. • Energy requirements increase because they grow quickly and become active. • Good supply of protein, calcium, iron, vitamin A and D, as part of a healthy, balanced diet • Calcium and vit D for healthy tooth development, and strong bones. • Limit sugary carbohydrates such as sweets -tooth decay. • Fat: small amounts for energy and insulation. • Young children small stomachs, small and frequent meals. No room for junk food • Children cannot cut food and chew as easily so need easy to eat foods • Avoid nuts- choking and allergy risks. • Children need plenty of fluid and they should be encouraged to drink regularly, especially if they are very active. <p style="text-align: right; background-color: yellow;">Click here to find out more life stages and diets</p>	
<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. Boys need extra iron initially for growth and muscles but this need decreases after age 19. Boys need more protein and energy than girls due to their later growth spurt <i>Many UK teenagers are lacking in calcium, iron and vitamin A.</i></p>	<p>Adults</p> <p>Requirements do not change much between the ages of 19 to 50, except during pregnancy and lactation. 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>Older adults need protein to repair worn out body cells. They need a good supply of calcium and Vitamin D in order to maintain healthy bones and teeth and iron to keep bloody healthy. In winter time, they may need a little more fat in their diet to provide body warmth. Fresh fruit and Vegetables are important for a good supply of vitamins and minerals. Old people may have digestive problems or may have difficulty cutting food (because of arthritis) or chewing food (because of false teeth). Examples of food suitable for the elderly = Soft foods – boiled potatoes, stew, soup, casseroles, one pot meals. A good supply of fibre is needed to prevent constipation in the elderly who may be less active Older adults may have a weaker sense of thirst. If necessary they should be helped and encouraged to drink regularly.</p>
<p>Pregnancy & Lactation</p> <p>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 is required. Pregnant and lactating ladies should eat a varied diet rich in fresh fruit and vegetables and wholegrains (in line with the Eatwell Guide). There are some foods to avoid:</p> <ul style="list-style-type: none"> • 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 		

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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. 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) Halal is Arabic for permissible. Halal food is that which adheres to Islamic law, as defined in the Koran. Haram is the opposite to Halal and describes food which is not permitted under Islamic law. Haram items that Muslims will not consumer include pork and all pork products as well a alcohol.</p>	<p>Vegetarian Vegetarians do not eat any flesh – they do not eat meat, poultry or fish/shellfish. Vegetarians do eat dairy products and eggs (lacto-ovo-vegetarian).</p>
<p>Lactose intolerance - Link to website here 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. Kosher food also does not mix dairy products and meat in the same meal/course. Foe example, a burger must be served without cheese.</p> <div style="text-align: center;">  </div>	<p>Vegan Vegans avoid consuming any animal products – including milk and dairy products, Protein is a nutrient which can be lacking in a badly planned vegan diet – vegans can eat wholegrain cereals, nuts, beans, lentils and tofu. 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>Coeliac - Link to website here Coeliac disease sufferers react to the presence of gluten, a protein found in wheat flour and wheat flour products. They must avoid consuming gluten. Gluten is present in any wheat flour – alternatives such as</p>	<p>Hindu Followers of the Hindu religion do not eat Beef, as they believe it is a sacred animal.</p>	<p>Pescetarian Pescetarians do not eat meat, but will eat fish and shellfish.</p>
<p>Coronary Heart Disease - <i>Find out more click here</i> 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>	<p>Buddhist Buddhists are usually vegetarian and do not consume meat or fish.</p>	<p>Flexitarian This is a new concept – followers of a flexitarian diet choose vegetarian or vegan diet meal choices for some parts of the week, in order to reduce their carbon foot print. Meat-Free Mondays campaign spearheaded this movement.</p>

AC1.4 Cooking Methods

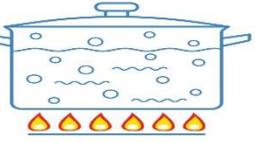
Nutrient Content Is Often Altered During Cooking

Cooking food improves digestion and increases absorption of many nutrients. For example, protein in cooked eggs is 180% more digestible than in raw eggs. However, several key nutrients are reduced with some cooking methods.

These techniques differ by water temperature:

- Poaching: Less than 82°C.
- Simmering: 85-93°C.
- Boiling: 100°C.

Boiling



-100oC

- Loss of vitamins
- Softens vegetables
- Gelatinisation happens making food like pasta softer and easier for the body to use.

Foods: Vegetables, fish, pasta, rice,

POACHING



- Enhance nutrients
- Add flavours
- Reuse nutrient stock

Foods: Eggs, fish, white meat chicken and fruit

STEAMING



- No direct heat
- Retains nutrients
- Adds flavour

Foods: Vegetables, fish, meat, rice, Chinese food

When the liquid from boiling is used in things like gravy, **100% of the minerals and 70-90% of B vitamins are retained.**

Steaming is one of the **best cooking methods** for **preserving nutrients, including water-soluble vitamins.**

Effect on nutrition

- Up to **50% of Vit C** is damaged when **green vegetables** are boiled.
- Vitamins **B1, B2 and B3** are damaged by heat and dissolve in the water.
- Some **calcium and sodium** is also lost as it dissolves in boiled water.

Starch (carbs) is gelatinised when cooked in liquid making it easier for the body to use.

- **Boiling fish** was shown to preserve omega-3 fatty acid content significantly more than **frying or microwaving.**

Effect on nutrition

- Vitamins **B1, B2 and B3** are damaged by heat and dissolve in the water.



Effect on nutrition

- Best method for conserving Vit C, as only 15% is lost as the food is not in direct contact with the water.



BOTTOM LINE:

While water-based cooking methods cause the **greatest losses** of water-soluble vitamins, they have **very little effect on omega-3 fats (essential fatty acids).**

AC1.4 Cooking Methods

Roasting



- Dry heat
- Cooking solid foods
- Food is often coated with oil and fat.

Foods: Vegetables, fish, potatoes, joints of meat,

Baking



- Dry heat
- Not cooked in oil or covered with liquid

Foods: Cakes, muffins and bread

Nutrient Content Is Often Altered During Cooking



GRILLING

- Minimal oil
- Seal in flavour
- Reduce fat content

Foods: Fish, burgers, chicken, vegetables, seafood, halloumi, tofu, fruit.



STIR-FRYING

- Minimal oil
- Nutrients intact
- Great texture

Foods: Vegetables, chicken, fish, sea food.

Effect on nutrition

- High heat destroys most of Vit C.
- **Long cooking times** at high temperatures, **B vitamins in roasted meat may decline by as much as 40%.**

BOTTOM LINE:

Roasting or baking does not have a significant effect on most vitamins and minerals, with the exception of B vitamins.

Effect on nutrition

- Heat can over cook protein making it difficult for the body to use.
- Damage caused to vitamin B and C.

Effect on nutrition

- Up to 40% of Vitamin B can be damaged. Maintains other vitamin and minerals in grilling.
- High heat can easily over cook protein.

BOTTOM LINE:

Grilling and broiling provide **great flavour** but also **reduce B vitamins.** *Grilling generates potentially cancer-causing substances!*

Effect on nutrition

- The fat used in cooking increases the amount of Vit A can absorb from some vegetables.
- Damage to Vitamin C and B is minimal due to short exposure to the heat.

BOTTOM LINE:

Sautéing and stir-frying improve the **absorption of fat-soluble vitamins**, but **they decrease the amount of vit C in vegetables.**

Tips to Maximize Nutrient Retention During Cooking

1. Use as little water as possible for poaching or boiling.
2. Consume the liquid left in the pan after cooking vegetables.
3. Add back juices from meat that drip into the pan.
4. Don't peel vegetables until after cooking them. Better yet, don't peel at all to maximize fibre and nutrient density.
5. Cook vegetables in smaller amounts of water to reduce loss of vitamin C and B vitamins.
6. Try to finish cooked vegetables within a day or two, as vitamin C content may continue to decline when the cooked food is exposed to air.
7. Cut food after rather than before cooking, if possible. When food is cooked whole, less of it is exposed to heat and water.
8. Cook vegetables for only a few minutes whenever possible.
9. When cooking meat, poultry and fish, use the shortest cooking time needed for safe consumption.
10. Don't use baking soda when cooking vegetables. Although it helps maintain colour, vitamin C will be lost in the alkaline environment produced by baking soda.