

DRV's

**Dietary
Reference
Values**

EAR

**Estimated
Average
Requirements**

ENERGY INTAKE HAS BEEN TREATED DIFFERENTLY

- If the standard for energy intake of a group was designed to be enough for those individuals with high needs it would be too much for most people in the group
- If all the members of the group consumed that much energy, many would become obese.



Reference Nutrient Intake RNI

- **Amount of a nutrient that is enough for every individual, even someone who has a high need for this nutrient**

SAFE INTAKE

- A term normally used to indicate the intake of a nutrient for which there is not enough information to estimate requirements
- A safe intake is one which is judged to be adequate for almost everyone's needs but not so large as to cause an undesirable effect

The nutritional needs of individuals

**The amount of nutrients
required by different
individuals is related to a
wide variety of factors**

- Age
 - Basal metabolic rate
 - Gender/sex
 - Weight/height/body size
- Lifestyle/physical activity level (PAL)
 - Occupation
 - Special circumstances
 - Pregnancy
 - Lactation
 - Convalescents
 - Weight reduction
 - Vegetarians
 - Elderly

Age

Everyone needs energy from their food but as we get older, i.e. after 60/65 years of age, and slow down in movement, the body needs less energy as people become less active, e.g. on retirement from work.

Adult males normally **have greater body size** than females and adults are taller than younger teenagers. Every single body cell needs to be supplied with energy; therefore, **the larger the body size, the more energy is required.**

The greater the body size, the more **protein** is required to repair and maintain body tissue.

Lifestyle, physical activity level (PAL) (occupation)

The amount of energy needed by adults, in particular, depends upon the type of work that they do and how much physical energy is required to do it.

Pregnancy

Although energy is needed during this time to support the growth of the foetus, considerable reductions occur in physical activity during the last three months of pregnancy. Therefore the amount of energy required is limited to an EAR of 0–8MJ per day for the last three months only

Pregnancy

Pregnant females must add on 6g protein per day to the normal RNI for their age group, as extra protein is needed for the growth and development of the foetus.

Sufficient fibre/NSP in the form of
fruit,
vegetables and wholegrain
products will prevent constipation.
Inactivity in the later stages of
pregnancy, will
contribute to the risk of
constipation.

Women intending to become pregnant, and for the first 12 weeks of pregnancy, are advised to take supplements or foods rich in folic acid. This will help reduce the risk of their baby developing a neural tube defect.

IRON

The mother must have enough iron during pregnancy to supply her own body and to provide the growing baby with a store of iron for the first 4 months after birth.

Vitamin C

- to enable iron to be absorbed
- required for the baby's tissue formation

Calcium, phosphorus and Vitamin D

A sufficient supply is required to ensure the baby's bones develop correctly

Foods to avoid in pregnancy

1. Soft, ripened cheeses, such as brie and camembert, and also pâté should be avoided, as they may contain listeria bacteria which can be harmful to the unborn child.

2. **Cook-chill meals** should be thoroughly reheated as they may also contain listeria bacteria.

3. *Eggs* should be thoroughly cooked as they may contain salmonella bacteria which can cause food poisoning.

4. *Avoid eating liver* and its products as they may contain large amounts of vitamin A which can be harmful to the developing baby.

Lactation

Breast feeding demands energy as the milk has to contain enough energy to supply the needs of the growing infant.

Women who breast feed their baby for the first 4 months of the baby's life should add on 11 g of protein per day to the normal RNI for their age group.

Advantages of breast feeding

Establishes a **close emotional bond** between mother and child.

- Breast milk **contains antibodies** and other protective substances which provide specific protection for the child

- Medical evidence suggests that babies who are breast feed have a **lower risk of developing asthma.**
- Breast-feeding may help the mother to **lose excess fat stores** gained during pregnancy.
- Medical evidence suggests that women who breast-feed have a **lower risk of developing breast cancer.**

Convalescents, invalids

People who are largely immobile, i.e. confined to bed or to a wheelchair or hospital while they recover from an illness (convalescing), do not have the normal requirement for energy. They should cut down on sugar, fat and ensure that large quantities of starchy carbohydrates are not eaten, so preventing obesity.

Convalescents, invalids

Invalids would normally need additional protein because repair of weakened or damaged tissue caused by illness or an operation would require to take place.

Sufficient fibre/NSP in the form of
fruit,
vegetables and wholegrain
products will prevent constipation.
Inactivity due to illness will
contribute to the risk of
constipation.

Additional guidelines for convalescents

Serve small portions

Avoid highly seasoned and spicy food

Serve food attractively to encourage
appetite

Foods should be thoroughly cooked to
avoid food poisoning

Weight reduction

People who are attempting to lose weight sensibly will be given a medically approved diet which reduces the EAR of energy

This means their bodies will be **forced to use up the stored fat**, so reducing weight as the fat level in the body falls.

Foods rich in fibre/NSP will aid weight reduction by providing a feeling of fullness, so reducing the risk of snacking on high fat or sugar foods.

Low calorie diets and meal replacement drinks may seem an easy way to lose weight.

However, they do not encourage a change in eating habits often lead to a loss of muscle and not fat and can be expensive.

Vegetarians

The same amount of energy would be required by vegans/lacto vegetarians. Energy will come from cereals, grains and potatoes, particularly for vegans. Lacto vegetarians may have to be careful of the amount of saturated fats – eggs, cheese, milk – in their diets which may raise energy levels.

They should such as cheese, **limit their consumption of dairy foods** butter, whole milk to avoid too large an intake of saturated fats. Reduced-fat versions of these foods should be used.

Iron may be unavailable to the body from certain plant foods due to the presence of phytic acid, so limit phytic acid in the diet, e.g. wheat bran.

Vitamin B12 may have to be supplemented by fortified foods.

Vegans

- Protein is found in relatively small amounts in plant foods, so a large bulk may have to be eaten. The richest sources are – soya beans, beans, pulses, cereals, nuts. A mixture of plant-protein foods should be eaten to make up for the deficiencies of essential amino acids in each.

Vitamin D is seldom found in plant foods so the action of sunlight on the skin is an important source.

Fortified foods further ensure adequate amounts, e.g. vegetable margarines, soya milks.

THE ELDERLY

- as age increases, activity slows down, especially after retirement from an active job so there may be a reduced requirement for energy.

Calcium and vitamin D

The elderly may have an increased requirement for calcium and vitamin D to help prevent decalcification (the gradual removal of calcium from the bones) so that they do not become brittle and weak.

IRON RICH FOODS

the elderly may not always be able to afford or feel inclined to cook red meat so may be deficient in iron which is essential for haemoglobin formation and to prevent anaemia.

SIZE OF MEAL

The size of meals should decrease with less activity but the quality should not. There is no need for elderly to eat only soft food but some may if their dentures do not fit properly.

NSP/ FIBRE INTAKE

It may be necessary to increase the intake of fibre to avoid constipation, which is a common problem in this age group. Many elderly resort to using laxatives to prevent or ease constipation. This is undesirable and unnecessary if the diet contains sufficient fibre.

INCOME/ MOBILITY/ LONLINESS

A reduced income may make it difficult to buy meat or protein rich food, alternatives should be considered.

Decreased mobility may mean they depend on help from neighbours or social services for shopping or food prep.

The loss of a partner may also affect the motivation to cook and this may lead to poor health in the elderly.

CULTURAL/ RELIGIOUS FACTORS

CHRISTIANITY

- does not forbid the eating of any foods although some Catholics may eat fish on a Friday
- special food may be eaten at xmas time
- eggs may be decorated, rolled and eaten at Easter to represent the boulder being rolled from the tomb at the time of the resurrection

ISLAM

- Food must be **HALAL**, slaughtered according to Muslim law
- Pork is forbidden as is fish without scales, shellfish and alcohol.

HINDUISM

For Hindus, the cow is sacred, as are its products like milk and ghee therefore they are not eaten.

Many Hindus are vegetarian but some may eat meat although the pig and shellfish are considered as 'unclean' and therefore not eaten.

JUDAISM

Jewish people only eat KOSHER meats, which means the meat is slaughtered and prepared to strict Jewish laws.

Forbidden foods include pork, bacon, ham, shellfish and gelatine

For strict Jews, meat and milk are not cooked or eaten together.

SIKHISM

Food restrictions for Sikhs are less strict than those for other religions, however beef is forbidden as is alcohol.