

## Red Meat and Nutrition

Historically, meat has played an important role in our evolution and we choose to eat meat for optimum nutrition, enjoyment, ease and convenience. Evidence from Palaeolithic remains suggest that man has had a long history of eating a meat – based diet. Cave drawings illustrating hunting scenes indicate just how important meat was to the diet and lives of our ancestors.



### What is meat?

The term 'meat' describes the muscle tissue that provides steaks, joints, cubed and minced meat and also organs like liver and kidneys which are termed 'offal'. Red meat includes beef, veal, pork and lamb (fresh, minced and frozen). Processed meat includes meat that has been preserved by methods other than freezing, such as salting, smoking, marinating, air-drying or heating: e.g. ham, bacon, sausages, hamburgers, salami, corned beef and tinned meat.

### Health Benefits

Red meat contains protein and important micronutrients, all of which are essential for good health throughout our life. Most healthy balanced diets will include lean meat in moderate amounts, together with starchy carbohydrates (including wholegrain foods), plenty of fruit and vegetables, and moderate amounts of milk and dairy foods.

### Protein

Red meat is a good source of high quality protein. Protein is essential for growth, maintenance and the repair of the body and can also provide energy. Red meat contains, on average, 20-24g of protein per 100g (when raw). Cooked red meat contains 27-35g of protein per 100g (cooked weight).

### Minerals

Red meat is an important dietary source of minerals, in particular iron and zinc. Red meat contributes approximately 17% of total iron intake in the UK which is present in the more readily absorbed haem form of iron. In the UK, almost 50% of women of

child-bearing age have low iron intakes. A number of studies have confirmed the positive effect of including red meat in the diet, on intakes of dietary iron<sup>1 2</sup>

Low intakes of zinc are also a concern for some population groups in the UK, such as young girls, children and infants. Red meat contains substantial amounts of zinc, which, similar to iron, is available in a form that is readily absorbed by the body.

## **Vitamins**

Red meat contains a variety of vitamins, including a range of B vitamins, particularly vitamin B3 (niacin) and vitamin B12. As vitamin B12 is only found naturally in foods of animal origin, people who do not consume meat or other animal products may have inadequate intakes. Red meat is also a useful source of Vitamin B1 (thiamin) and Vitamin B2 (riboflavin) with pork higher in thiamin than the other red meats.

Red meat also contains vitamin A, and offal is a rich source. Because liver is particularly rich in vitamin A, it is not advised for pregnant women to consume liver or liver products, as excessive amounts of vitamin A can cause malformation in the foetus.

Low vitamin D status is prevalent in the UK, particularly amongst young people and older adults and in ethnic minorities. For those who do not get enough vitamin D through sunlight exposure (the main route for most people), red meat is an important dietary source as the vitamin D found in meat is thought to be more easily utilised than the vitamin D found in some other foods.

## **Fat**

In a number of Western countries, red meat consumption has declined, partly due to a concern about its fat content. However, advances in animal husbandry and butchery techniques over the last 40 years have resulted in a reduction in the fat content of carcass meat by 10-30%. This means that the fat content of lean red meat is much less than many consumers think. Typically the total fat content of lean red meat is between 5-10g per 100g.

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<sup>1</sup> Cosgrove M et al. British Journal of Nutrition, 2005;93:933-942.

<sup>2</sup> Gibson S & Ashwell M. Public Health Nutrition, 2002; 6(4):341-350.

We can further reduce the fat content of meat by using preparation and cooking methods such as dry frying or grilling and by trimming the visible fat off meat.

There are also misconceptions about the type of fat red meat contains. Red meat contains both saturated and unsaturated fats. Indeed, lean beef and pork contain more unsaturated fat than saturated fat. Red meat also contains small amounts of omega-3 polyunsaturates, which help keep the heart healthy, especially in people who've already had a heart attack.

#### Nutrient content of red meat

Nutrient	Nutrients per 100g cooked meats		
	Beef (grilled steak)	Lamb (grilled chop)	Pork (grilled chop)
Energy (kcal)	176	213	184
Protein (g)	26.6	29.2	31.6
Fat (g)	7.7	10.7	6.4
Saturates (g)	3.4	4.9	2.2
Monounsaturates (g)	3.3	4.0	2.6
Polyunsaturates (g)	0.3	0.6	1.0
Carbohydrate (g)	Nil	Nil	Nil
Vitamin B <sub>12</sub> (µg)	2	3.0	1.0
Iron (mg)	1.4	2.1	0.7
Zinc (mg)	4.3	3.6	2.4

(Chan et al 1995)

### In Conclusion

Red meat can make an important contribution to nutrient intakes in the diet. It provides a number of essential nutrients, including protein, iron, zinc, vitamin B12 and vitamin D. Some of these nutrients, such as iron and zinc, are more easily absorbed from meat than alternative food sources. Therefore, red meat can make a significant contribution to the diet, especially for those groups in the population that are known to have poor intakes of these nutrients.

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