

RED MEAT AND NUTRITION

PROTEIN QUALITY MATTERS

Protein plays an important role in human health and well-being. Proteins are sources of essential amino acids, which the human body cannot produce by itself. However, not all proteins provide the right amounts of these essential amino acids. High quality proteins are considered those that are readily digestible and contain the dietary essential amino acids in quantities that correspond to human requirements.

The factors that affect the nutritional requirements of an individual include:

- ✓ **the quality and quantity of the food they consume**
- ✓ **the efficiency of their digestive system in absorbing and utilizing the nutrients**
- ✓ **the biochemical availability of the nutrients once inside the body**

These factors are all taken into consideration when dietary guidelines and recommended nutrient intake values are developed and implemented, and these are constantly revised as new insight become available.

In addition to nutrient quantity in foods, the quality of the nutrient delivered should also be considered, as this significantly influences the amount of the nutrient absorbed from the gastro-intestinal tract into the human body for utilization. Red meat is a good source of many essential nutrients and these nutrients are also considered to be of high nutritional quality.



The importance of protein quality

Protein requirements are often defined as the minimum dietary intake which satisfies the metabolic demand and achieves nitrogen equilibrium and maintenance of the body protein mass, in addition to the needs for growth. Protein and amino acid recommendations for normal “healthy” children and adults have varied considerably over time, and the importance of protein quality, in addition to quantity, is increasingly recognised. In undernourished individuals, and when protein sources with low quality are predominantly consumed, protein requirements might be significantly higher than previously recommended.

According to the World Health Organization (WHO) dietary protein intake in developing countries falls significantly short of the **recommended 0.66 g/kg body weight per day**. In these countries protein is obtained from staple foods which are mainly cereal based. These staple foods contain a lower quantity of protein when compared to animal sources of protein, and are often low in the essential amino acids lysine, tryptophan and the sulphur containing amino acids cysteine and methionine, compromising the quality of the protein source. **Protein obtained from animal sources contains both a high quantity and quality as it contains a full complement of the essential amino acids in the right proportions.**

Protein content of a serving of selected foods commonly consumed by South Africans (Recommended Dietary Allowance (RDA) for protein is 56g/day) (Wolmarans et al, 2010)

One Serving	Average protein amount
85g cooked lean lamb, beef, chicken or fish	20 – 30g
250ml cooked split peas, beans or lentils (1 cup)	10 – 20g
1 (59g) boiled egg	7g
250ml milk (1 cup)	8g