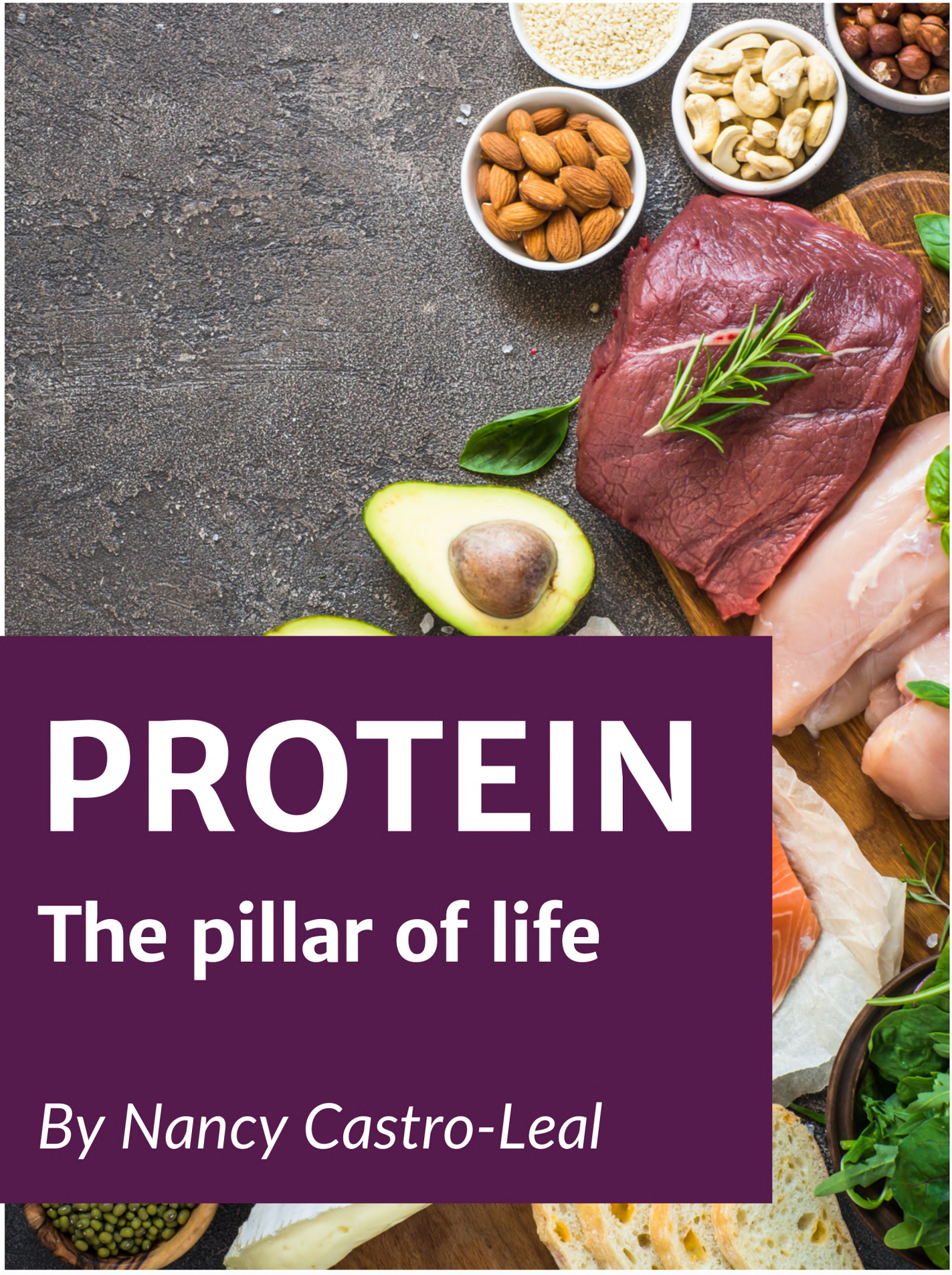


PROTEIN

The pillar of life

By Nancy Castro-Leal

LRS Labour Research Service

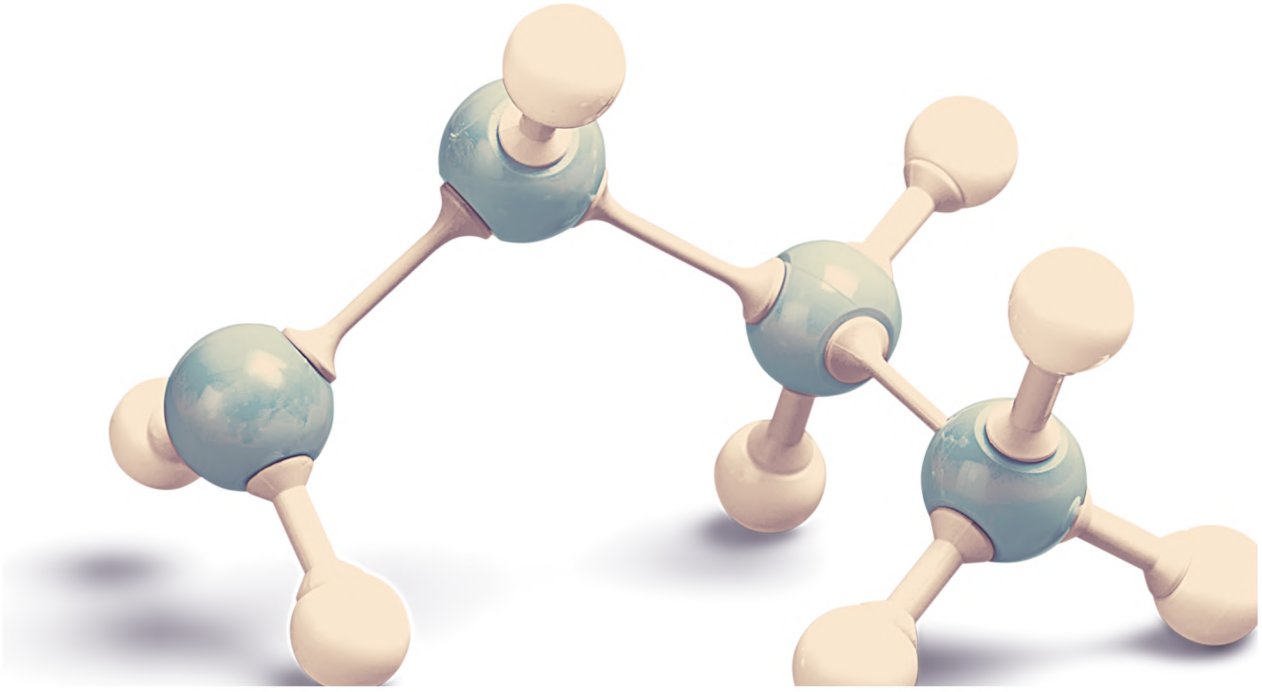
Together we can POWER UP!

Power Up! Women advocate for bodies, voices and resources.

The Labour Research Service seeks to connect and support Volunteer Food Handlers in the National School Nutrition Programme to have their jobs made visible, recognised, valued and remunerated.

The LRS Power Up Nutrition Series comprises a set of eBooks to assist school communities and trade union activists to support Volunteer Food Handlers to promote healthy nutrition in schools.

Protein: The pillar of life



> **The food we eat can have a positive or negative effect on our bodies. Did you know that how you feel, your wellbeing and your mental development are linked to what you eat?**

From childhood, we are taught to drink plenty of water, eat little sugar and salt, and have vitamins and proteins. We know that protein and vitamins are essential to growth, development and wellbeing.

We generally associate vitamins with fruit or the tablets our mothers gave us when we had the flu. We believe that protein comes from meat. We also know that for the first six months of life, breast milk is the only food a human being needs. Breast milk provides all the nutrients needed for the body to function and develop according to the child's age. We only need to breastfeed or give baby formula if breastfeeding isn't possible for some reason. Baby formula is a modification of cow's milk and is similar to breast milk.

The baby's nutritional needs change at six months and we need to diversify what they eat. We now need to know about proteins, vitamins, minerals, carbohydrates and fats. These are the main classes of nutrients that the body needs. We also need to know where to get nutrients, their roles and functions, and

the amounts we need to eat for our age, sex and lifestyle to achieve a proper balance.

In this article, we will learn what proteins are, their sources and the amounts that different people need for optimal health and wellness.

What are proteins?

Proteins are the basic building blocks of life. Every body cell has protein. The human body comprises thousands of different proteins with specific functions for your age, sex and lifestyle. Proteins consist of chemicals called amino acids. There are 21 different types of amino acids. Nine (9) are essential and 12 are non-essential. Non-essential amino acids are made naturally by the body, but essential amino acids are not. We need to get these from food.

Here is another way to help you understand amino acids. Imagine an alphabet where each consonant is a non-essential amino acid and each vowel is an essential amino acid. To make a word, we need consonants and vowels that we string together like a chain. Similarly, a protein is a chain of essential and non-essential amino acids. Using the analogy of the alphabet, each word has a specific function, for example, the word 'cat' only represents an animal, while the word 'boy' only represents a young human male. Likewise, each protein has a specific and unique function. With the alphabet, we can write words. With words, we can write books. Amino acids allow us to build proteins, and proteins build and maintain the human body.

Proteins mainly make up muscles, cartilage, ligaments, skin, hair and nails. Our blood, hormones, antibodies and insulin, which are essential for human survival, are also made up of proteins.

Proteins help to build, repair and maintain the muscles, tissues and organs in our bodies. Through hormones, proteins regulate processes such as menstrual cycles, mood and sexual appetite.

Like hormones, antibodies are regulated by proteins. Antibodies are activated when they detect foreign substances such as toxins or micro-organisms such as bacteria, fungi, parasites or viruses that attack our body. In other words, proteins, through antibodies, act like an army to defend our body.

How much protein should we eat daily?

Protein is one of the macronutrient food groups. The World Health Organisation (WHO) recommends 0.83 grams of protein per kilo of body weight per person per day.

The WHO calculation depends on your age, gender and lifestyle. For example, a 32-year-old man weighing 70kg needs 58.1g of protein daily. But pregnant women of the same age and weight need 101.5 grams of protein daily.

PROTEIN REQUIREMENTS

Age	Grams/Per Kilogram/Per day
Boys and girls under the age of a year	1,14
From 1 to 3 years	0,90 - 1,14
From 4 to 6 years	0,86 - 0,89
From 7-10 years	0,91 - 0,92
Male adolescent	0,66
Female adolescent	1,07
Adults 20 - 59 years	0,83
Adults older than sixty	1
Pregnant women	1,2 - 1,7

Source: Latin American Archive of Nutrition: ALAN. Vol 63, No4. Caracas, December 2013

**Protein consumption chart for developing countries based on WHO recommendations, created by Dr Marisa Guerra and colleagues at the Simon Bolivar and Central Universities of Venezuela.*

Plant proteins have less fat than animal proteins. By combining foods, it is possible to get all nine essential amino acids from plant proteins.

Where can we find proteins?

We get protein from animals and plants. Some examples of animal proteins are beef, chicken, fish, eggs and dairy products (milk, cheese, butter, yoghurt, sour milk or amasi). Plant proteins include lentils, beans, chickpeas, peanut butter, brown rice, nuts, pumpkin seeds, millet, quinoa and soya.

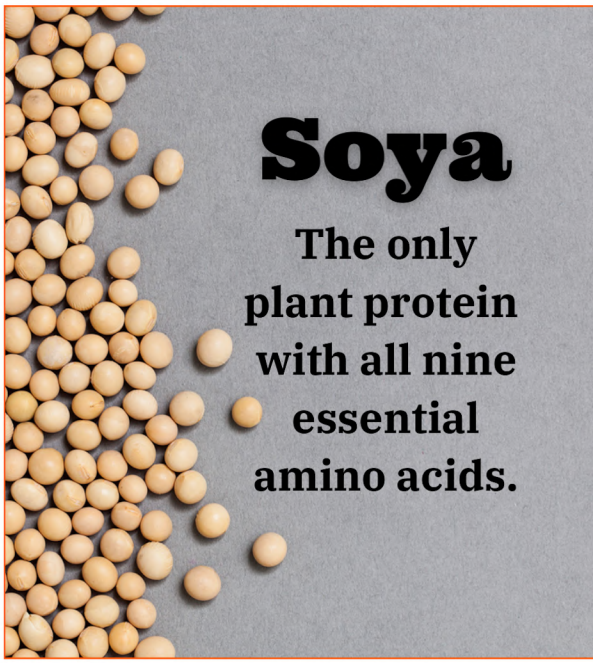
Soya is the only plant protein with all nine essential amino acids.

Animal proteins have all nine essential amino acids. But they also have high amounts of fat. If excess fat is not used up through physical activity, it can clog up the liver and muscles and lead to obesity, diabetes and heart disease.

In contrast, plant proteins have less proteins, but low in fat. It is possible to get all nine essential amino acids from plant protein by combining foods, for example, beans with rice and mealies, lentils with mealies and millet, or chickpeas with pumpkin and sunflower seeds. Such meals contain all nine essential amino acids and no bad fat.

Meat is important to many cultures and to the food industry, which promotes its consumption under the guise of promoting health. But many global health systems discourage excessive meat consumption. According to the WHO, red and processed meat can potentially cause cancer. We need to eat a maximum of two portions the size of our fist per week, combined with a balanced diet that includes fruit, vegetables, legumes and plenty of water. Some countries, such as Spain, recommend no more than 125g of red or processed meat per person per week or no more than 325g of white meat per person per week.

Soya is popular in many countries because of its high protein content. 100 grams of soya contain about 37 grams of protein. This means that **people who eat soya instead of meat get more protein without the risk of chronic disease**. The Food and Agriculture Organisation (FAO) has conducted many studies which show that soya is a high-quality protein compared to other plant protein sources.



Soya has similarities to animal protein, but unlike meat, eating soya helps to reduce LDL (low-density lipoprotein) cholesterol, the so-called bad cholesterol. Soya contains omega 3 and omega 6, which are good cholesterol.

Interestingly, the jelly we enjoy in deserts is rich in protein - about 84 grams per 100 grams.

Now that we know all about protein and our bodies, it is easier to decide how to feed ourselves and our families for a healthy and happy life.

The Labour Research Service stands for inspiring workers to believe in and exercise their individual and collective power in the struggle for social and economic justice.

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