

# Fueling the human body: The benefits and risks of high-protein, high-fat diets.

Seeman Robbins\*

Departments of Medicine and Endocrinology, University of Melbourne, Melbourne, Australia

## Abstract

**Proteins are macromolecules that play a crucial role in the structure, function, and regulation of the body's tissues and organs. They are made up of smaller units called amino acids that are linked together by peptide bonds. Proteins are essential components of cells, tissues, enzymes, hormones, and other biochemical molecules that are involved in a wide range of physiological processes. Proteins are classified into different categories based on their structure, function, and source. Structural proteins are the building blocks of tissues and organs and provide strength and support to cells. Examples of structural proteins include collagen, elastin, and keratin. Enzymes are proteins that catalyze biological reactions, and they play a key role in metabolic processes such as digestion and energy production.**

**Keywords:** Proteins, Macromolecules, Keratin, Tissues.

## Introduction

Hormones are signaling molecules that are produced and secreted by endocrine glands and play a role in regulating physiological processes such as growth and metabolism. Antibodies are proteins that are produced by the immune system and play a role in defending the body against pathogens and foreign substances. Proteins are not stored in the body like other nutrients such as carbohydrates and fats. Instead, the body constantly breaks down and synthesizes proteins to meet its needs. The body needs a steady supply of amino acids to synthesize proteins, and it can either obtain these amino acids from the diet or recycle them from existing proteins. The human body can synthesize some of the amino acids it needs, but there are nine essential amino acids that must be obtained from the diet [1,2].

These essential amino acids cannot be synthesized by the body and must be obtained from food sources. Good sources of protein include meat, poultry, fish, dairy products, eggs, beans, lentils, soy products, and nuts. Proteins are important for maintaining the body's overall health and function. They play a role in muscle growth and repair, hormone production, immune function, and maintaining fluid balance. Proteins also provide energy, although carbohydrates and fats are the primary sources of energy for the body. However, a high-protein diet can also have negative health effects, especially if it is not balanced with other nutrients. Excessive protein intake can lead to kidney problems, bone loss, and an increased risk of heart disease. It is important to consume a balanced diet that includes a variety of protein sources to ensure that the body obtains all the essential amino acids it needs. Proteins

are essential macromolecules that play a crucial role in the structure, function, and regulation of the body's tissues and organs [3,4].

They are made up of smaller units called amino acids, and the body needs a steady supply of amino acids to synthesize proteins. Good sources of protein include meat, poultry, fish, dairy products, eggs, beans, lentils, soy products, and nuts. While a high-protein diet can have health benefits, it is important to consume a balanced diet that includes a variety of protein sources to ensure optimal health. Fats are an essential component of a healthy diet and play a crucial role in the human body. Fats provide energy, help absorb and transport fat-soluble vitamins, and insulate and protect the body's organs. There are three main types of fats: saturated, unsaturated, and trans fats. Saturated fats are typically solid at room temperature and are found in animal products such as meat, dairy, and butter. While saturated fats are necessary for the body in small amounts, excessive consumption can lead to an increased risk of heart disease and other health problems [5].

## Conclusion

Unsaturated fats are typically liquid at room temperature and are found in plant-based oils, nuts, and seeds. These fats are considered healthier than saturated fats because they can help lower cholesterol levels and reduce the risk of heart disease. There are two main types of unsaturated fats: Monounsaturated and polyunsaturated fats. Monounsaturated fats are found in foods such as olive oil, avocados, and nuts and have been shown to have a positive effect on heart health. Polyunsaturated fats are found in foods such as salmon, sardines, and flaxseeds

---

\*Correspondence to: Sharon Unger, Departments of Medicine and Endocrinology, University of Melbourne, Melbourne, Australia, E-mail: [seemanrobbins@jch.unimelb.edu.au](mailto:seemanrobbins@jch.unimelb.edu.au)

Received: 28-Jan-2023, Manuscript No. AAFTP-23-88910; Editor assigned: 30-Jan-2022, PreQC No. AAFTP-23-88910 (PQ); Reviewed: 14-Feb-2023, QC No. AAFTP-23-88910;

Revised: 20-Feb-2023, Manuscript No. AAFTP-23-88910 (R); Published: 27-Feb-2023, DOI:10.35841/2591-796X-7.2.170

and are important for brain health and the development of the nervous system. Trans fats are artificial fats that are created through a process called hydrogenation, which solidifies liquid oils. Trans fats are found in processed foods, baked goods, and fried foods and are considered the unhealthiest type of fat. Trans fats can raise cholesterol levels and increase the risk of heart disease. It is important to consume a balanced diet that includes a variety of fats, with a focus on unsaturated fats and limited amounts of saturated and Trans fats. Good sources of unsaturated fats include olive oil, avocados, nuts, seeds, and fatty fish such as salmon and sardines.

## References

1. Ko GJ, Rhee CM, Kalantar-Zadeh K, et al. The effects of high-protein diets on kidney health and longevity. *J Am Soc Nephrol.* 2020;31(8):1667-79.
2. Moon J, Koh G. Clinical evidence and mechanisms of high-protein diet-induced weight loss. *J Obes Metab Syndr.* 2020;29(3):166.
3. Verreijen AM, Engberink MF, Memelink RG, et al. Effect of a high protein diet and/or resistance exercise on the preservation of fat free mass during weight loss in overweight and obese older adults: A randomized controlled trial. *J Nutr.* 2017;16:1-8.
4. Tipton KD. Efficacy and consequences of very-high-protein diets for athletes and exercisers. *Proc Nutr Soc.* 2011;70(2):205-14.
5. Pesta DH, Samuel VT. A high-protein diet for reducing body fat: Mechanisms and possible caveats. *Nutr Metab.* 2014;11(1):1-8.