

## Is Protein Always Good? Why More Isn't Always Better!!

Walk into any gym, health store, or Instagram feed and one message dominates modern nutrition: more protein means better health. From shakes and bars to powders, protein has been elevated to near-mythical status. But is high protein really the secret to a long and healthy life? Or have we oversimplified a nutrient that deserves far more nuance? Let's unpack the science, the history, and the hidden risks of protein overload.

### “RABBIT STARVATION DIET”!!

When early Europeans were exploring the wild Canadian frontiers in the arctic circle, particularly in winter, they observed a peculiar phenomenon called “mal de caribou” or “rabbit starvation” from the native American tribes.

Rabbits at this time of the year having almost gone through their fat reserves were exceptionally lean with almost 82% Protein, and humans while semi starving (very lean) consumed such meat was almost universally causing, malaise, nausea, vomiting, diarrhoea, irritability and many times faster death or near death, despite their bellies being full.

However native tribes avoided rabbits as much as possible, and in extreme scarcity, if they had to consume rabbit meat, it was in combination with bone marrow, brain, any last bit of oil or fats they had and subsequently had way lesser symptoms or death.

While Rabbit starvation does not happen nowadays with modern way of life and food availability, it gives a valuable insight based on writings of Diaries and other sources, about potential problems with extreme protein diet.

### So what Exactly Is Protein?

The word protein comes from the Greek proteios, meaning “holding first place.” And rightly so, without protein, life as we know it simply wouldn't work. Proteins are tiny molecules with a massive responsibility; they help your body do almost everything it needs to function, grow, repair, and survive. From building muscle to healing wounds, from making hormones to fighting infections, protein is deeply involved in every life process. We cannot store protein the way we store fat or carbohydrates. The body uses what it needs, and the rest must be broken down and excreted a process that creates metabolic waste.



### Did you know?

*Rabbits in arctic circle in late winters have among the highest known lean protein in the natural world (about 82% of body weight).*

### Amino Acids: The Alphabet of Protein

Proteins are made from smaller units called amino acids, often compared to the letters of an alphabet. Just as different letters form different words, different combinations of amino acids form different proteins.

#### Your body needs 20 amino acids in total:

- 11 are non-essential amino acids; your body can make these on its own
- 9 are essential amino acids; your body cannot make these, so you must get them from food

### The Different Types of Protein

Proteins vary widely depending on their amino acid profile.

- **Complete Proteins:** Contain all essential amino acids. Common sources: eggs, poultry, fish, dairy, soy, quinoa
- **Incomplete Proteins:** Lack one or more essential amino acids. Common sources: beans, lentils, nuts, seeds, whole grains.

### Animal vs. Plant Protein

Animal protein is usually complete but comes with saturated fat, dietary cholesterol, and sulfur-rich amino acids that can produce toxic metabolites in the gut. Plant protein is lower in certain amino acids but is paired with fiber, antioxidants, vitamins, minerals, and phytonutrients, making it metabolically gentler and disease-protective.

### How Much Protein Do You Really Need Every Day?

It sounds like a simple question but the answer is far more layered than most of us realize. For the average healthy adult, the Recommended Dietary Allowance (RDA) for protein is **0.8 grams per kilogram of body weight per day**. That works out to roughly 56-60 grams per day for a 70-kg adult. In a balanced diet, protein usually makes up less than 20% of total daily calories, with the rest coming from carbohydrates and healthy fats that provide the body with usable energy. More is needed in specific conditions like Athletes, Pregnant or breast feeding women. But research repeatedly shows that going far above your needs does not translate into better health.

### Protein in Nature: The Balanced Package

For most of human history, our diets were naturally balanced, moderate in protein and rich in plant-based foods. In nature, pure protein rarely exists. Most natural sources meat, fish, legumes, grains are mixtures of protein, carbohydrates, and fats. The modern protein isolate or powder, often 90-100% protein, is an artificial construct. Human physiology evolved consuming protein interlinked with fiber, fat, and micronutrients not in isolated, concentrated form. Excessive protein, particularly from animal sources, may therefore stress our metabolic pathways in ways that are evolutionarily unfamiliar.

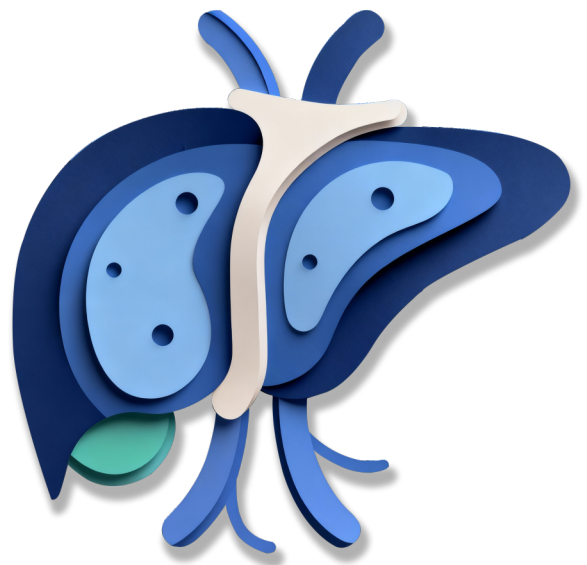
Contrary to popular belief, ancient hunter-gatherers did not live on meat alone. For most of human history, the bulk of daily calories came from: Roots and tubers, wild fruits and berries, seeds, nuts, and leaves. Animal food was valuable but relatively infrequent and unpredictable.

### When Protein Becomes Excess: What Happens in the Body?

Very high-protein diets, especially those dominated by animal protein are increasingly linked with health risks when followed long-term. Research suggests excess intake may contribute to:

- Increased kidney workload
- Higher cholesterol and heart disease risk
- Greater inflammation
- Gut microbiome imbalance
- Added strain on liver metabolism
- Acid-base imbalance, Dyselectrolytemia

**Liver Damage: The Hidden Ammonia Overload:** But when the liver is damaged due to cirrhosis, hepatitis, or fatty liver disease the efficiency of the urea cycle drops. Ammonia and other nitrogenous toxins start accumulating in the bloodstream. These toxins are small enough to cross the blood-brain barrier, where they interfere with normal brain metabolism. This leads to hepatic encephalopathy (HE), a brain dysfunction caused by liver failure.



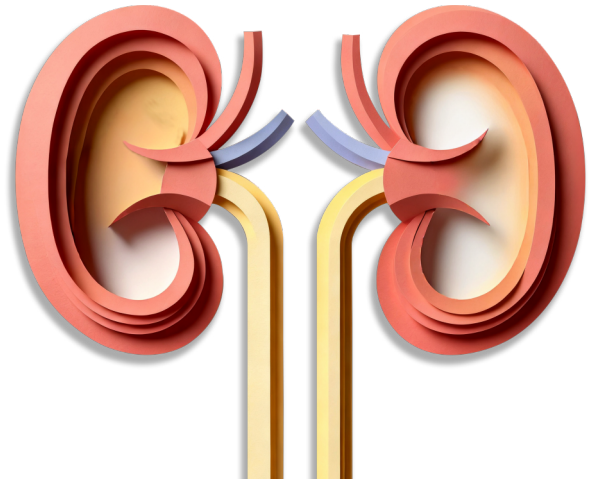
### When Protein Becomes a Burden: How Excess Affects the Kidneys

Once proteins are digested, their nitrogen component is converted by the liver into urea, ammonia, and other waste molecules. These must then be excreted by the kidneys. When protein intake rises sharply, the kidneys have to:

- Filter more blood (increasing glomerular filtration rate, or GFR)
- Remove excess urea and nitrogen compounds
- Balance body pH against the acid load created by protein metabolism

At first, the kidneys can cope, but prolonged overload may push them beyond their adaptive capacity.

While short-term studies in healthy individuals suggest that this effect is reversible, long-term or excessive protein intake (particularly above 2 g/kg/day) may place sustained stress on the kidneys. **Brenner BM et al., NEJM, 1982** proposed that high protein intake elevates intraglomerular pressure, potentially leading to progressive kidney damage, especially in individuals with reduced renal reserve.



### Acid Load and Mineral Balance

High-protein, especially animal-based diets, generate an acidic load because sulfur-containing amino acids produce sulfuric acid during metabolism. To neutralize this acid, the body draws bicarbonate from blood and minerals like calcium from bone. This can lead to, bone demineralization (loss of calcium), Higher risk of kidney stones and Metabolic acidosis, particularly in those with reduced kidney reserve. Plant proteins, in contrast, are less acid-producing, making them more kidney-friendly.

## PROTEIN INTAKE & LONGEVITY

This is where the science gets fascinating. Lower calorie diet has almost universally shown to be beneficial for longevity. But surprisingly, a small effect of lower protein diets (particularly animal) being better for longevity when on a low isocaloric diet based on animal studies, and observational human studies like people in Blue zones and certain sects. We have to be cautious in interpreting the data, as most studies are animal-based and no large number of human randomised controlled studies are available. Also, places like Blue zones and other data may have other confounding factors like lifestyle, exercise and other factors too. Hopefully larger randomised controlled studies in humans may give us more confidence

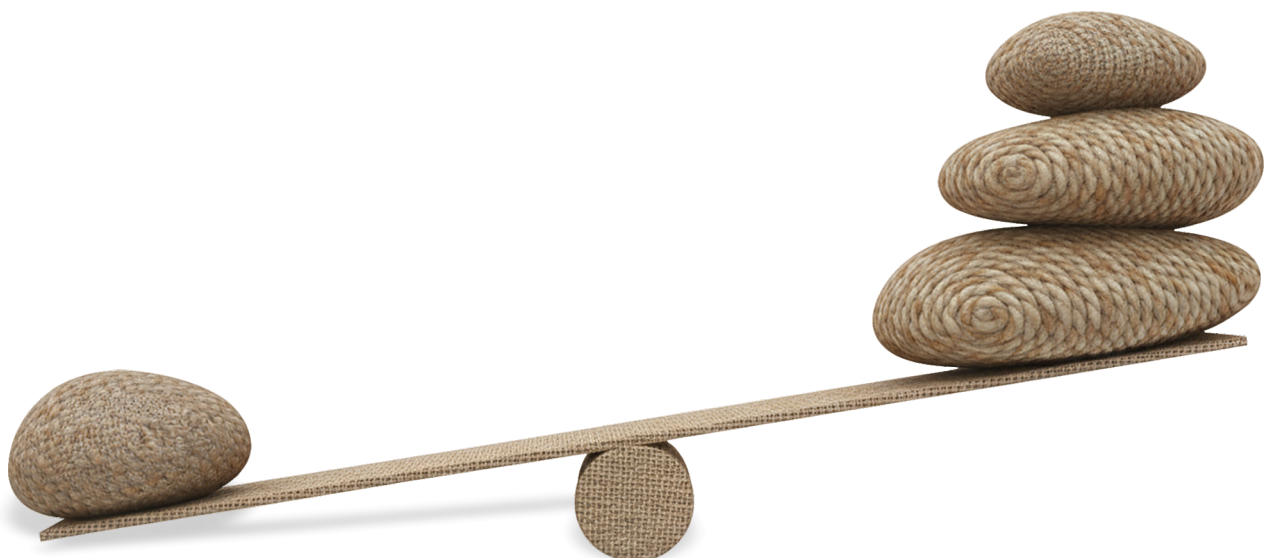
### Balance, Not Excess, Is the Real Secret

Protein is an extremely important macronutrient, important in function of almost every cell of the body, enzymes, hormones, for muscle building/preventing loss, and should never be too low. Almost all studies agree on this.

The point of this article is to point out the potential side effects of excess consumption (supraphysiological doses) of protein, not to underdose or avoid. With the current data available it is best to aim for the recommended daily dose of 0.8 grams/Kg body weight, particularly from unrefined natural sources, combined with fiber, other macronutrients like carbohydrates and fats, along with salts, trace minerals, vitamins all of which are best obtained from natural, minimally (un)processed food, avoiding excess calories and artificial, additive, processed powders as much as possible, unless recommended as a supplement in rare situation.

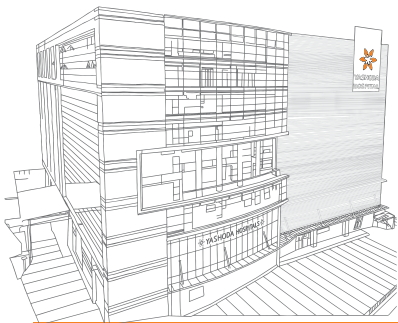
Blood work and a dietary and doctor consultation may also be advisable to tailor intake for your specific situation

So while protein is a very important building block, it is not a “magic bullet” and can have side effects, potentially serious, if consumed in excess and in the wrong form!





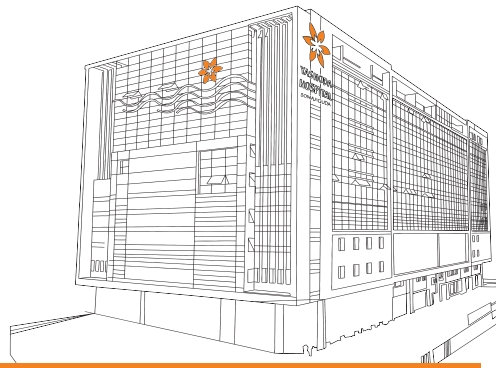
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