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# Protein Guidance: How to Get Enough for Optimal Health

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***Dietary protein is crucial for building and repairing body tissues,*** *influencing everything from muscle growth to the function of enzymes and hormones*

***Nine essential amino acids must be obtained from the diet as your body cannot synthesize them***

***Animal proteins provide not only essential amino acids but also nutrients that are essential for health, such as vitamin B12, retinol and taurine, which support brain, heart, and muscle function***

***Adults generally need about 1 gram of protein per pound of their ideal body weight daily to support optimal muscle protein synthesis***

***Collagen, which makes up about 30% of your body's protein, is essential for maintaining the strength*** *and flexibility of tissues like skin, bones and joints, so approximately one-third of your daily protein intake should be in the form of collagen*

*

Dietary protein is essential for building and repairing tissues, including muscles and organs. It's also required for the proper functioning of enzymes, hormones, and your immune system.

## Essential, Nonessential and Conditionally Essential Amino Acids

Made up of amino acids, proteins serve as the building blocks of your body. While there are

hundreds of amino acids in nature, humans only use about 20 of them to make the proteins our bodies need. Those 20 proteins include:

| | | | |
|---|---|---|---|
| Alanine | Arginine | Asparagine | Aspartic acid |
| Cysteine | Glutamic acid | Glutamine | Glycine |
| Histidine | Isoleucine | Leucine | Lysine |
| Methionine | Phenylalanine | Proline | Serine |
| Threonine | Tryptophan | Tyrosine | Valine |

Five of these — alanine, asparagine, aspartic acid, glutamic acid, and serine — are considered nonessential amino acids because your body can make them, although you can also get them from foods.

Another six — arginine, cysteine, glutamine, glycine, proline, and tyrosine — are described as conditionally essential. This is because, while your body can make them if you're healthy, during times of illness, stress or intense physical activity, your body's ability to produce these amino acids may not be sufficient to meet your needs, making it necessary to get them through your diet.

There are also nine essential amino acids, which you must get from food as your body cannot make them. These include histidine, isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan, and valine. Dietary sources for these essential amino acids include meat, fish, eggs, and dairy, as well as some plant-based options like legumes.

## Why You Need Protein

Muscle mass optimizes you for longevity, and dietary protein, especially animal-based protein, is essential for muscle maintenance and muscle building. The greater your muscle mass, the higher your survivability against all diseases, including cancer. Cachexia, for example — the loss of muscle mass — accounts for 20% of all cancer deaths.[1]

One of the reasons for this is because muscle acts as a reservoir for amino acids, which are crucial during illness when your body's demand for them increases. Additionally, muscle regulates metabolism and is integral for glucose disposal, which helps you manage conditions like diabetes and cardiovascular disease. Your muscle also interfaces with your immune system.

## The Case for Animal Protein

In terms of diet, skeletal muscle requires high-quality dietary protein, ideally animal protein, to stimulate muscle protein synthesis. Skeletal muscle requires branched-chain amino acids — leucine, isoleucine and valine — which are most abundant in meat.

Unlike plant proteins, animal sources also provide nutrients like vitamin B12, retinol (vitamin A) and creatine, bioavailable iron, carnitine, and carnosine, all of which are important for muscle growth and health in general.

Animal-based protein sources also contain taurine,[2] a semi-essential amino acid that is important for:

- **Healthy brain function**[3]
- **Heart health**[4]
- **Healthy muscle function**[5]
- **Bile salt formation**[6]
- **Antioxidant defenses**[7] **—** Taurine protects your antioxidant status by neutralizing hypochlorous acid,[8] diminishing the generation of superoxide by the mitochondria,[9] and minimizing oxidative stress,[10] including mitochondrial oxidative stress induced by toxins[11]

According to a 2023 study,[12,13] taurine plays an important role in longevity and healthy aging. Oral supplementation with taurine increased the median healthy lifespan of mice by 10% to 12%. Taurine also helps rebuild damaged collagen fibers[14] and can help ease anxiety by increasing glycine and GABA.[15]

Taurine is a byproduct of the sulphureous amino acids cysteine and methionine (technically a sulfonic acid), and is only found in animal foods. Examples of taurine-rich foods include seafood, organic grass fed red meat and dairy products, and organic poultry.

## Finding Your Ideal Protein Intake

As a rule, protein should make up about 15% of your daily calories. More specifically, most adults need about 0.8 grams of protein per pound of ideal body weight (the weight you would ideally be, not necessarily the weight you are now), or for Europeans, approximately 1.76 grams of protein per kilo.

For example, if your ideal weight is 135 pounds, your protein requirement would be 108 grams. Divided into two meals, that would be 54 grams per meal. For reference, there's approximately 7 grams of protein in each ounce of steak, so a 5-ounce steak would give you 35 grams of high-quality protein. For children, the average amount per meal is around 5 to 10 grams, while young adults typically can get away with 20 grams per meal.

For most normal-weight adults, 30 grams per meal is really the minimum you need to stimulate muscle protein synthesis.

## Comparison with Conventional Advice

For comparison, conventional dietary advice recommends a daily intake of 1.65 to 1.76 grams of protein per pound of actual bodyweight (as opposed to ideal weight), or for Europeans, 0.75 to 0.8 grams per kilo. Using this metric, the average adult woman is said to need about 45 grams of protein per day, and men about 56 grams.[16]

While the gram per pound is higher, the total grams of protein recommended ends up being much lower because they're basing it on actual weight, which in most people is primarily

excess fat weight, not muscle. Basing your intake on ideal weight is more likely to bring you closer to your real needs.

Many are starting to realize that the conventional recommendation for protein may be inadequate though. As reported by The Guardian,[17] this guideline is based on a studies trying to determine the minimum protein requirements needed to prevent malnutrition, which is different from the requirement to thrive:

> "A new technique for establishing protein needs has been developed, catchily called the indicator amino acid oxidation method. 'It suggests the minimum protein intake for thrive mode, not just to prevent malnutrition, is about 1g to 1.2g per kilogram of body weight per day.'
>
> 'As a woman in my 40s,' says [British dietitian Linia] Patel, 'as my hormones decrease I will lose muscle mass. The 1g of protein will help me prevent that, not the 0.75g …
>
> For bulky rugby players, the protein recommendation is 'about 2g per kg in body weight per day, and they're at the top of what the American College of Sports Medicine recommends' …
>
> [F]rom our late 70s we need a protein boost up to about 1g per kg of bodyweight, daily … [E]lderly people need a little bit more to slow the natural reduction in muscle mass. An older person who's trying to be active might need 1.4g per kg."

## Make Sure You're Getting Enough Collagen

Once you have calculated your overall protein requirement, make sure one-third of that is in the form of collagen. Collagen is the most common and abundant of your body's proteins, accounting for about 30% of the total protein in your body.

One of its primary purposes is to provide structural support and strength to your tissues, such as skin, bones, tendons, ligaments, and cartilage[18,19,20] by allowing them to stretch while still maintaining tissue integrity. As such, collagen is crucial for repairing soft tissue, muscle, and connective tissue.

Connective tissues include tendons, ligaments, cartilage, and fascia, which tend to get weaker and less elastic with age. Connective tissue injuries are also problematic since there's very little blood supply in connective tissue, which slows down recovery. Other lesser-known health benefits of collagen supplementation include:

- Deeper sleep due to its glycine content[21]
- Reduced joint pain and stiffness,[22] including osteoarthritis pain[23]
- Improved gut health and digestion, thanks to the presence of glycine[24]
- Improved blood pressure and reduced cardiovascular damage[25]
- Improved glucose tolerance[26]
- Reduced inflammation and oxidative damage, as glycine inhibits the consumption of nicotinamide adenine dinucleotide phosphate (NADPH). NADPH is used as a reductive reservoir of electrons to recharge antioxidants once they

become oxidized

## Collagen Is Important for Muscle Functionality

Also, while collagen does not contribute directly to muscle growth, it plays a supportive role by contributing to the overall health and functionality of muscles and connective tissues. For example, collagen:

- **Supports the health and strength of tendons and ligaments —** By strengthening these connective tissues, collagen helps maintain the integrity and elasticity necessary for muscles to function effectively and grow.
- **Facilitates injury recovery —** Building muscle often involves rigorous physical activity that can sometimes lead to injuries. Collagen is vital for the repair of connective tissues and can accelerate recovery from muscle injuries by promoting quicker regeneration of muscle fibers and connective tissue.
- **Enhances joint health —** Regular strength training and muscle building can put a strain on joints. Collagen helps maintain the cartilage that cushions joints and may reduce the risk of joint deterioration and pain. Healthier joints support more consistent and intensive workouts.
- **Improves muscle elasticity —** Collagen contributes to the elasticity and hydration of tissues. With better muscle elasticity, there is a lower risk of injuries during workouts, allowing for more effective muscle engagement and growth over time.
- **Aids in muscle contraction —** Collagen contains several amino acids, such as glycine and proline, which are important for the synthesis of creatine in the body. Creatine is a compound that provides energy for muscle contractions and is often supplemented to increase muscle mass and improve exercise performance.

## Why Red Meat Cannot Provide All the Protein You Need

The primary amino acids in collagen — glycine, proline and hydroxyproline — make up the matrix of connective tissue. As you can see in the chart below, red meat contains very little of these amino acids, so eating only muscle meat will not provide enough amino acids to allow you to build strong connective tissue and maintain bone strength.

| Amino Acid | % Gelatin Collagen | % Beef |
|---|---|---|
| Glycine | 28 | 1.6 |
| Proline | 17 | 1.0 |
| Hydroxyproline | 14 | 0.3 |
| Alanine | 11 | 1.3 |
| Methionine | 0.8 | 3.2 |
| Histidine | 0.8 | 2.1 |
| Tryptophan | 0.4 | 1.3 |
| Cysteine | Trace | 0.2 |

Importantly, collagen contains higher amounts of specific amino acids with anti-inflammatory and other healing properties, while red meat is higher in amino acids that promote inflammation.

Collagen also helps protect your cells against stress. During stress, cysteine and tryptophan are released in large quantities, and these amino acids have antimetabolic effects. Glycine, on the other hand, has cell-protective, antistress effects.[27] As such, many degenerative and inflammatory diseases can be ameliorated by eating more gelatin and/or collagen-rich foods.

Red meat contains far higher levels of the antimetabolic amino acids cysteine and tryptophan, which you want less of if you struggle with degenerative and/or inflammatory conditions. Life extension studies have shown that tryptophan and cysteine restriction produce a greater life extension than calorie restriction, which is rather remarkable.[28]

## Bone Broth Is an Ideal Collagen Source

Homemade beef bone broth is an ideal source of collagen, and using a pressure cooker, you can whip up bone broth in as little as two to four hours. The devil's in the details though.

When cooking broth, you want to make sure the bones are as organic as possible, as the bones of animals raised in concentrated animal feeding operations (CAFOs) tend to be contaminated with heavy metals, which leach out during cooking.

Some bones are also better sources of collagen than others. Chicken feet and the knuckle bones (knee joint) of cows are particularly high in collagen and are therefore excellent choices for making bone broth.

## Prevent Muscle Breakdown with Carbs

On a final side note, the stress hormone cortisol drains the amino acids, the protein, from

your tissues, thereby decreasing bone density and muscle mass. So, while making sure you're eating enough protein is important, you also want to eat enough healthy carbs to prevent the destruction of muscle from excess cortisol.

Consuming carbs as part of your post workout meal will decrease cortisol and allow you to recover faster. Research has shown that including carbs in your post-workout meal decreases cortisol levels by 11% (relative to the peak cortisol level measured during exercise). Meanwhile, not including carbs can increase cortisol by 105%.[29]

The reason for all this is because when you don't have enough glucose to fuel the mitochondria, when you deplete your glycogen level, then stress hormones — adrenaline and cortisol — are released to trigger endogenous production of glycogen.

Those stress hormones are pathologic, and if they're continuously released at high levels to compensate for insufficient glucose, it will accelerate disease and premature death.

According to a recent meta-analysis, a single strength workout will decrease muscle glycogen levels by 24% to 40%.[30] Just three sets of 12 reps performed to muscular failure resulted in a 26.1% decrease in muscle glycogen levels.[31]

So, it's important to consume healthy carbs after your workout to replenish your glycogen stores. Your muscles rebuild when you're in a rest and digest state, not in a state of fight or flight.

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**Notes**

[1] Cancer Manag Res 2020; 12: 5597–5605

[2] X, Dr. Eashwarran Kohilathas April 7, 2023

[3] Nutrients March 2022; 14(6): 1292

[4] Experimental & Clinical Cardiology 2008; 13(2): 57-65

[5] Metabolites February 2022; 12(2): 193

[6] Biocrates Taurine

[7] Amino Acids June 2012; 42(6): 2223-2232

[8] Amino Acids January 2014; 46(1): 89-100

[9] Amino Acids January 2014; 46(1): 47-56

[10] Mol Cell Biochem May 2016; 416(1-2): 11-22

[11] Can J Physiol Pharmacol February 2009; 87(2): 91-99

[12] Science June 9; 380(6649) DOI: 10.1126/science.abn9257

[13] Science June 8, 2023; 380(6649): 1010-1011, Perspective/Commentary

[14] Tohoku J Exp Med March 2015; 235(3): 201-213

[15] Anxiety Medication, How to take taurine for anxiety?

[16, 17] The Guardian April 15, 2024

[18] Bone 2010 Mar;46(3):827-3

[19] PLoS One 2014 Jun 13;9(6):e99920

[20] J Agric Food Chem. 2010 Jan 27;58(2):835-41

[21] J Pharmacol Sci 2012; 118: 145 – 148 (PDF)

[22] Curr Med Res Opin. 2008 May;24(5):1485-96

[23] Curr Med Res Opin. 2006 November; 22(11):2221-32

[24] Am J Physiol 1982 February;242(2):G85-8

[25] J Med Food. 2010 Apr;13(2):399-405

[26] J Med Food. 2016 Sep;19(9):836-43

[27, 28] RayPeat.com Gelatin, stress, longevity

[29] Metabolism 2006 May;55(5):570-7

[30] Sports Medicine 2022; 52: 2691-2712

[31] J Appl Physiol 1991 Apr;70(4):1700-6

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