



Inadequate protein is leading you down a spiral of increased health complications.

We are overwhelmed with various type of diets on a daily basis, intermittent fasting, low carb diet, ketogenic, paleo, vegan, vegetarian. It's too much, and it too complicated. It doesn't have to be that way. Plus, we can be honest here, there's no way we're going to change your diet that may have been established for decades.

However, we do recommend making a change. While we are going to discuss what one's intake should be, we aren't necessarily going to tell you exactly what to eat. We'll save that for a registered dietitian or certified nutritionist. We may not be either of the two but we know one things for certain, he vast majority of people are not eating enough protein.

What is protein?

When it comes to protein, many think of meat and fish. Two forms of protein rich food that are consumed on a regular basis, that is if you are not vegetarian or vegan. But, what is protein?

Proteins are the building blocks of life. They are special molecules that are found in all living things, including animals, plants, and even you! Just like how Lego pieces can be put together in different ways to build different things, proteins are made up of smaller parts called amino acids. There are 20 different types of amino acids, and they can be arranged in different combinations to make different proteins.

Proteins have important jobs in our bodies.

They do many different things, like helping with chemical reactions, **giving cells and tissues structure**, carrying messages around our bodies, and **helping to build muscle**.

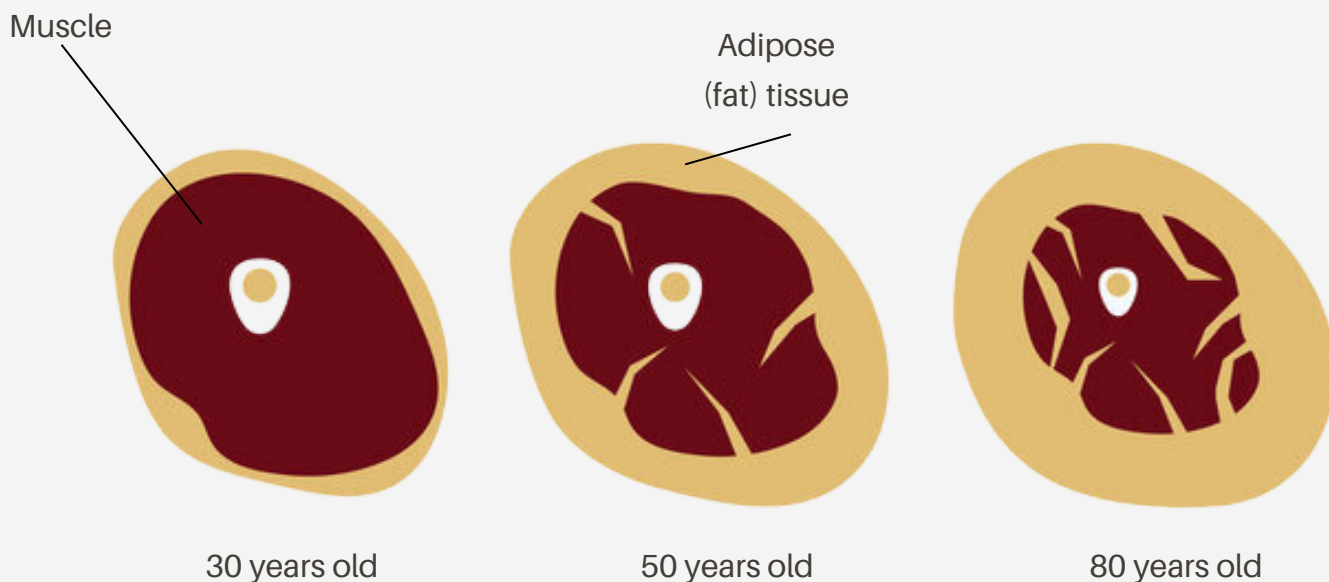
Imagine that proteins are like the workers in a big factory. Some proteins are like the machines that help make things happen, like enzymes that speed up chemical reactions. Other proteins are like the beams and support structures that hold everything together, like the frame of a building.

How much protein is recommended on a daily basis?

Protein can come in various forms, and it's no question everyone needs protein in order for various systems and processes to function, one of the most important being muscle protein synthesis.

However, the question posed is currently up for debate. The recommended dietary allowance (RDA) is 0.8 grams of protein per kilogram of bodyweight.





The above illustrates muscle atrophy over the years.

Therefore a gentleman weighing 180 pounds would need 65 grams of protein daily.

$180 \text{ lbs} / 2.2 = 81.81 \text{ kilograms}$

$0.8 \times 81.81 \text{ kg} = 65.45 \text{ grams}$

Many researchers and physicians have argued this to be far too little, especially after the age of 50.

Dr. Peter Attia recommends his patients take in 1.0 grams of protein **per pound** of body weight. Therefore, a gentleman weighing 180-pounds should aim to receive 180 grams of protein on a daily basis. This 275% more than the RDA.

That begs the question, what is correct? There is quite a wide range when comparing these two recommendations. In order to determine this let's understand why more might be necessary.

What is sarcopenia?

Sarcopenia is a medical term used to describe the age-related loss of muscle mass, strength, and function. As people age, there is a decline in muscle mass, which can lead to reduced physical performance and overall weakness.

Sarcopenia can be brought on by a number of factors including reduced physical activity level, increased fat tissue or inadequate nutrition. When we think of sarcopenia we must keep in mind this is the result of a net negative interaction. That is, muscle breakdown is greater than muscle protein synthesis. If we are breaking down more muscle than our body is synthesizing then the net result will be negative, pushing us closer and closer to sarcopenia, and a loss of physical function.

At what rate does muscle loss occur?

We now know that protein is vital for building and maintaining muscle. As we age muscle mass declines at a rate of about 1-2% yearly after the age of 50. Muscle strength however can decline at a rate of 3-4% per year.

Therefore, what one sees in the mirror may not tell the whole story. Muscle strength may decline at a rate of four times 'normal' muscle mass declines. Chances are, if you've seen a change in your body composition, especially when viewing muscle mass, you've also been feeling it for some time as well.

Protein plays a role in slowing both. Adequate protein allows the body to undergo protein synthesis. This process helps to build broken down muscle, while also creating new building blocks that will aid in everyday activities.

What is anabolic resistance?

Anabolic resistance refers to the reduced ability of the body to build and maintain muscle mass and protein synthesis in response to anabolic stimuli, such as exercise and protein intake.

Anabolic resistance is a key contributor to the development of sarcopenia. The term "anabolic" refers to processes that promote the growth and synthesis of molecules, such as muscle proteins, while "resistance" indicates the diminished response to these anabolic signals.

There are a number of mechanisms associated with aging that contribute to anabolic resistance.



Anabolic resistance can be exacerbated by the following:

- Hormonal changes:
 - With age, there is a decline in hormones like testosterone, growth hormone, and insulin-like growth factor 1 (IGF-1), which play crucial roles in stimulating muscle protein synthesis. Reduced levels of these hormones can hinder the body's ability to build and repair muscle tissue.
- Reduced nutrient sensitivity:
 - Aging can lead to reduced sensitivity to nutrients, particularly protein, which is essential for muscle protein synthesis. Consequently, older individuals may require higher protein intake to achieve the same anabolic response as younger individuals.
- Increased inflammation:
 - Chronic low-grade inflammation, often observed in aging can interfere with anabolic processes and promote muscle protein breakdown.
- Physical inactivity:
 - As people age, they tend to become less physically active, which can further contribute to muscle loss and anabolic resistance. Physical activity, especially resistance training, is essential for stimulating muscle growth and counteracting anabolic resistance.
- Impaired muscle quality:
 - Aging can lead to changes in muscle fiber type and composition, reducing muscle quality and making it more challenging for muscles to respond to anabolic stimuli.

Therefore, if you're not a fan of exercising, at the very least increase your protein intake. However, combating anabolic resistance and sarcopenia involves a multifaceted approach that includes regular resistance exercise, **adequate protein intake**, hormone therapy (if clinically indicated and supervised by healthcare professionals), and strategies to manage inflammation and overall health. Engaging in physical activity and **maintaining a balanced diet** throughout life can help reduce the impact of anabolic resistance and support healthy muscle function and longevity.

Protein Rich Options

- Chicken Breast (cooked, skinless): Protein Content: 31g per 3-ounce (85g) serving
- Turkey Breast (cooked, skinless): Protein Content: 29g per 3-ounce (85g) serving
- Salmon (cooked): Protein Content: 22g per 3-ounce (85g) serving
- Tuna (canned in water): Protein Content: 22g per 3-ounce (85g) serving
- Eggs: Protein Content: 6g per large egg
- Greek Yogurt (plain, non-fat): Protein Content: 10g per 100g serving (about 2/3 cup)
- Cottage Cheese (low-fat): Protein Content: 14g per 1/2 cup
- Tofu (firm): Protein Content: 10g per 100g serving
- Lentils (cooked): Protein Content: 9g per 1/2 cup
- Chickpeas (cooked): Protein Content: 7g per 1/2 cup
- Black Beans (cooked): Protein Content: 7.5g per 1/2 cup
- Quinoa (cooked): Protein Content: 4g per 1/2 cup
- Almonds: Protein Content: 6g per 1-ounce (28g) serving (about 23 almonds)
- Chicken or Turkey (deli slices): Protein Content: Around 6g per 1-ounce (28g) serving
- Milk (1% low-fat): Protein Content: 8g per 1 cup
- Cheese (Cheddar): Protein Content: 7g per 1-ounce (28g) serving
- Pork Chops (cooked, lean): Protein Content: 26g per 3-ounce (85g) serving
- Beef Steak (cooked, lean): Protein Content: 23g per 3-ounce (85g) serving