

## **Series - Muscle: The Organ that Powers Vitality**

*In this series, discover how skeletal muscle, the body's largest organ, impacts health and longevity. From regulating hormones and blood sugar to boosting brain health, muscles are far more than just a source of strength.*

*By [Sheramy Tsai](#) (Epoch Health / The Epoch Times) September 11, 2024 Updated: September 11, 2024*

### **Part 9**

# **6 Proven Nutritional Strategies for Building Muscle**

**Building strong muscles goes beyond pumping iron—some foods and supplements partner well with your workouts.**

Pumping iron at the gym is only half the muscle-building battle. The adage “muscles are built in the kitchen” rings truer than ever.

Foods and supplements you choose can amplify your workouts, turning efforts into visible results. With countless options available on the market, finding the most effective can be overwhelming. This guide cuts through the noise to help you fuel your body for optimal muscle growth.

## **1. Prioritize Protein**

Protein is the foundation of muscle health. It supplies the vital components for muscle tissue and drives muscle protein synthesis, which repairs and strengthens muscles after exercise.

“Protein provides the essential building blocks your muscles need to repair, grow stronger, and get bigger, effectively complementing the hard work you put in during training,” Shawn Arent, professor of exercise science at the University of South Carolina, Arnold School of Public Health, said in an interview with The Epoch Times.

Skeletal muscle constantly repairs and renews itself, with about 1 to 2 percent of myonuclei, the nuclei within muscle fibers, turning over each week. This cycle of breakdown and repair helps muscles grow stronger and larger with consistent exercise.

The National Institutes of Health's recommended dietary allowance (RDA) for protein is set at 0.8 grams per kilogram of body weight per day, equating to about 54 grams daily for a 150-pound adult. However, Arent points out that more is needed to build muscle. "The RDA is meant to meet basic nutritional needs, not to optimize muscle growth," he said.

This call for higher protein intake is supported by a 2023 [study](#) in *Nutrients*, which suggests increasing protein intake could better support muscle function and overall health.

Arent recommends aiming for 1.6 to 2.2 grams (gm) of protein per kilogram of body weight. An easier way to calculate this is to consume about 0.7 to 1 gm of protein per pound of body weight. For example, if your goal weight is 150 pounds, you should eat approximately 105 to 150 gm of protein daily. He advises older adults to target the higher end of this range due to anabolic resistance, a condition where the body becomes less efficient at converting amino acids into muscle protein. This inefficiency requires more protein to stimulate and maintain muscle growth as we age, he noted.

## **Best Food Sources of Protein**

Focusing on high-protein foods that deliver the best return on investment is crucial. Arent highlights that animal proteins like chicken breast, turkey, beef, and eggs are particularly effective because they're rich in essential amino acids, especially leucine, which is critical for stimulating muscle growth.

Fish, such as salmon and tuna, provide high-quality protein and deliver healthy fats like omega-3s, which support overall muscle function. Dairy products like Greek yogurt, cottage cheese, and milk are also excellent choices, offering a mix of fast-digesting whey and slow-digesting casein proteins for sustained amino acid release, according to Arent.

For plant-based proteins, options like lentils, chickpeas, quinoa, and tofu can deliver protein. However, it may be necessary to combine various plant sources to achieve a complete amino acid profile and optimize muscle-building.

While vegetarian and vegan diets can support muscle growth, they may not be as ideal as diets that include animal proteins. Although high-quality proteins containing all essential amino acids are found in both plant and animal sources, they are often less densely packed in plant-based foods.

## 2. The Power of Protein Timing

While total daily protein intake is crucial for muscle growth, the timing of eating protein can also influence results. Arent emphasizes that consuming protein, especially during workouts, can further enhance muscle recovery and growth.

Research published in *Frontiers in Nutrition* shows that consuming protein within an hour of a workout improves muscle recovery and performance. While overall daily intake is most important, a post-workout shake or meal delivers essential building blocks during a critical window for muscle repair, according to the study.

Research by Donald Layman, a leading expert in protein synthesis and nutrition at the University of Illinois at Urbana-Champaign, underscores the importance of the distribution of protein throughout the day. Meal timing becomes increasingly important with age, particularly after 40, as the body's ability to use protein efficiently declines, he told *The Epoch Times*.

"The most sensitive meal is the first meal of the day after the overnight fast, but most Americans eat 60 percent of their daily protein at dinner and virtually nothing at breakfast," he added. Shifting some protein intake from dinner to the morning can significantly enhance daily muscle protein synthesis, Layman added.

"The first meal for adults should have at least 30 grams of protein. I target 45 grams," he noted. Consuming 30 to 45 grams of protein at breakfast aids muscle repair and supports functional mobility and metabolic health, according to Layman's research.

A study in *Cell Reports* further underscores the value of consuming protein earlier in the day, especially at breakfast, linking a high-protein morning meal rich in branched-chain amino acids to increased muscle mass and strength, particularly in older women. Branched-chain amino acids are special nutrients found in protein that help build and repair muscles, making them crucial for maintaining muscle health as we age.

As we age and adopt more sedentary lifestyles, and/or experience conditions like weight loss or extended bedrest, paying close attention to how we distribute our protein intake throughout the day becomes increasingly important, Layman said.

### 3. Shake Up Your Protein Routine

Diversifying your protein sources is key to maximizing muscle growth, and protein shakes can be a valuable addition. Arent describes protein powders as another “tool in the toolbox.”

“Protein powders are absorbed faster than whole foods, delivering essential amino acids to your system right after a workout,” Arent said.

For those watching their calorie intake, protein shakes are a convenient way to boost protein without the extra fats or carbs in whole foods.

Research published in *Frontiers in Nutrition* shows that whey protein is particularly effective for enhancing muscle protein synthesis and recovery after resistance training. It can also help improve performance when consumed post-exercise. On the other hand, casein offers a slower release of amino acids, which is helpful for sustained nourishment.

Whey is the liquid portion that remains after milk has been curdled and strained during cheese production. Whey protein is quickly digested and absorbed. Casein, on the other hand, is the main protein found in the remaining curds that form when milk is coagulated. It is digested more slowly than whey, providing a steady release of amino acids over several hours.

Arent advises choosing a protein powder that fits your dietary needs—whether whey, casein, or plant-based—and opting for third-party tested products to ensure safety and quality.

Dr. Gabrielle Lyon, muscle expert and author of “Forever Strong,” noted in a LinkedIn post that whey is often gentler on sensitive stomachs, whereas casein benefits those who go long periods without eating, like overnight.

### 4. Carbs Aren’t the Enemy

Carbohydrates often get a bad rap, but they play a vital role in muscle-building and overall performance. Carbs are crucial for fueling intense workouts and providing the energy your muscles need to perform at their best, according to Arent.

“The strongest stimulant for muscle building isn’t protein intake—it’s resistance training,” Arent said.

“Carbohydrates fuel those high-intensity workouts, helping you push harder and longer.”

In addition to powering workouts, carbs are essential for replenishing muscle glycogen stores post-exercise.

Without adequate carbohydrate intake, the body may start tapping into protein as an energy source, hindering muscle growth.

Incorporating the right amount of carbs into your diet ensures that your body uses protein for what it’s meant to do—building and repairing muscle—rather than as a backup energy source.

## **5. Don’t Fear the Fats**

Healthy fats are often underrated in muscle-building diets, yet they are essential for performance and growth. They provide a rich energy source and help absorb fat-soluble vitamins that aid muscle recovery.

Fats are critical for membrane and cellular integrity, the synthesis of steroid hormones like testosterone, and even neural and cognitive health, Arent said. Testosterone, in particular, stimulates the process of building muscle, making adequate fat intake essential for muscle growth and overall physical performance.

Incorporate healthy fats from sources like nuts, seeds, olive oil, salmon, and avocados to give your body the nutrients it needs for muscle function and overall health.

## **6. Supplements That Work—And Those That Don’t**

While some muscle-building supplements are supported by robust scientific evidence, others fail to live up to their claims. Arent and Lyon provide insights into which supplements are worth your investment—and which are best avoided.

Creatine tops the list as one of the most effective and well-researched supplements for boosting strength and muscle mass. “Creatine should be discussed in the same way we talk about multivitamins,” Arent said. “We’re seeing numerous positive effects, not just for strength and power, but also for brain health and recovery.”

Lyon points out that creatine is naturally found in animal foods, especially in the skeletal muscle of beef, chicken, and fish. Creatine promotes brain health, protects nerve cells, and strengthens the immune system.

Cooking meat reduces its creatine content. She recommends eating one pound of rare or red meat or two pounds of well-done beef or white meat for approximate daily intake.

“You may not need to supplement creatine,” Lyon wrote in a [LinkedIn post](#). However, supplementation can be ideal for older adults, those following plant-based diets, and those with lower meat consumption, as they may have difficulty obtaining enough from food alone.

Creatine helps increase the intensity of workouts, allowing heavier lifting and supporting greater muscle growth. The recommended daily supplement dose is typically around 5 grams, enough to see benefits without unnecessary waste, according to Arent.

In contrast, despite its popularity for joint health, collagen has little to offer in terms of muscle growth. Arent points out that the evidence supporting collagen’s role in building muscle is “negligible to none.”

Amino acids, particularly essential amino acids and branched-chain amino acids are another supplement category with proven benefits. They can support muscle recovery and growth. Arent recommends them for people with dietary gaps or training in a fasted state.

For those looking for a broader supplement strategy, Arent also mentions the potential benefits of fish oil for muscle recovery and reducing inflammation. “Fish oil, especially when high in EPA, may support lean tissue growth and muscle repair,” he added. EPA, or eicosapentaenoic acid, is an omega-3 fatty acid known for its anti-inflammatory properties, which can help reduce muscle soreness and support recovery after exercise.

Incorporating the right supplements—like creatine, high-quality proteins, and possibly fish oil—into your routine can impact your muscle-building journey, said Arent. It’s also important to avoid overhyped products that don’t deliver on their promises, like collagen for muscle growth, and instead focus on what’s proven to work.