



## Protein Supplementation Increases Muscle Mass

People who train for strength and/or muscle growth by lifting weights have long supplemented with protein in order to get the biggest gains possible from their exercise. Whey protein has been studied extensively for this purpose, with varying results. A new meta-analysis (a review of studies) has concluded that it indeed works and that protein supplementation increases muscle mass when combined with resistance training (weightlifting and similar exercise).

### **The analysis**

The new meta-analysis is called [A systematic review, meta-analysis and meta-regression of the effect of protein supplementation on resistance training-induced gains in muscle mass and strength in healthy adults](#), and among the authors are some very well-known names in this area.

The authors state their reasons for conducting the study:

Despite a large volume of work in this area, narrative reviews and even meta-analyses yield conflicting results as to the actual effectiveness of protein supplementation to enhance RET [resistance exercise training]-mediated gains in muscle mass and strength. This lack of agreement on the efficacy of protein supplementation is likely due to the use of divergent study inclusion criteria and inclusion of subjects with differing: ages, training statuses, total protein intakes, protein sources and protein doses. Thus, an evidence-based answer to the main question of the efficacy of protein supplementation, while previously reported, now appears to be controversial.

Without going into the details of how they conducted their study, they conclude that

Dietary protein supplementation significantly enhanced changes in muscle strength and size during prolonged RET in healthy adults. Increasing age reduces and training experience increases the efficacy of protein supplementation during RET. With protein supplementation, protein intakes at amounts greater than ~1.6 g/kg/day do not further contribute RET-induced gains in FFM.

In other words, adding protein in the form of whey, casein or other proteins causes a greater gain in muscle mass and strength than without protein supplements.

The average gain using extra protein over all of the studies looked at was **27% greater than without protein**. That's substantial.

The protein most often studied in relation to muscle gains is whey, although others such as casein and even plant protein concentrates have been studied.

An important caveat to the analysis is that beyond a total protein intake of about 1.6 grams per kilogram of body weight, protein supplementation does not result in further gains.

So, at least in part, protein supplementation works by increasing total protein intake.

Also in part, protein supplements work when to increase muscle mass when taken immediately before or after a workout, within an approximately 1-hour time window.

## **Protein requirements**

Previous studies on protein requirements for muscle growth have found an upper limit of approximately 1.8 g/kg, beyond which further protein does not increase growth of muscle. The current study confirms this general limit at 1.6 g/kg.

The important lesson here for anyone using resistance training to increase muscle is that if you get less than 1.6 g/kg of protein daily, you are not optimizing your muscle growth.

Without sufficient protein, some of your weight training essentially is wasted, dissipated and not used for muscle growth for lack of sufficient protein. In effect, you're leaving money on the table.

## **Whey protein**

[Whey protein is the best post-workout protein supplement for maximizing muscle growth](#). A whey drink of 20 to 30 grams of protein immediately before

or after a workout can go a long way toward maximizing muscle gains.

The whey proteins that I've used and recommend are [NutraBio](#) and [Bulk Supplements](#).

**PS: I discuss protein supplementation and other ways to get better muscle gains in my new book, [Best Supplements for Men](#).**



**PPS: [Check out my Supplements Buying Guide for Men.](#)**