

# Get the Facts - Protein Supplements

## **Myth:**

Protein supplements will destroy my kidneys, will make me fat, will make me bulky, are only for bodybuilders, are like steroids, and will make me crazy.

## **Fact:**

I have heard these statements from different people and I will try to tackle them all in this issue. First thing's first, similar to what has been stated in previous issues, technically nothing will make you "fat" or gain weight if you consume less of it in terms of calories than you are burning in a day. That being said, I will focus on protein supplementation with calories remaining constant (isocaloric conditions).

As far as calories go, there are three main components that house all the calories we eat: fats, carbohydrates, and protein. Some people call these "macro-nutrients" or "macros." Many studies consider the effects of increasing or even overloading fats and carbs in the diet but there has been little to no investigation on overloading protein. This may be where the fear of protein supplementation came from – a lack of information and research. To expel the danger myth, one study in 2014 examined protein overload. Male and female athletes consumed 4.4g/kg per day of protein (160 lbs = 73kg = 320g protein per day). As a reference, the national food guidelines suggest 50 grams per day. These individuals followed this diet for 8 weeks and analyzed renal function as well as body composition. Results showed no marked renal dysfunction. Lean body mass only slightly increased compared to a lower, but still high (1-2.5 g/kg per day) protein diet group. The conclusions drawn from this study, although this mass amount of protein won't hurt, it likely won't help too much either.

Everyone could benefit from increased daily protein intake. I don't mean an extra 30 lbs of meat per day, more like one protein shake instead of that chipotle burrito or vending machine candy bar. Substituting a 300 calorie, high fat or carbohydrate meal with a 300 calorie protein shake will help in a few ways. First, protein metabolism requires more energy than fat or carbohydrates. This is called the "thermic effect" and the thermic effect of protein is about 20-25% of its energy content whereas fats and carbs live around 7-9%. So, eating protein burns more calories compared to an isocaloric (same number of calories) carb meal. Second, when you do go to the gym, whether to burn fat or gain muscle, there will be a protein requirement for the muscle to heal. Just 40 extra grams of protein may aid in recovery efficiency and timing, meaning muscle will heal faster and will be stimulated to grow more than without.

I'd like to add one last statement toward the myth "protein is like steroids and will make you crazy." Protein is a naturally occurring macronutrient. The building blocks of protein in powders are the same seen in meats, beans, veggies, etc. They are simply amino acids and are all broken down into the same components before absorption. Dietary amino acids have no signaling role in the body and do not act as exogenous or stimulate endogenous steroids which means they have no direct effect on your behavior or mood. However, new data are showing that one particular amino acid, Leucine (a branched chain amino acid) may play a role in initial stimulation for muscle growth after resistance training. So, for those gym rats trying to put on an extra pound or two of muscle, think about leucine supplements after lifts.

## **Conclusion:**

Protein is not a scary, harmful substance to avoid. Just make sure to look at all the nutrition facts so there aren't a bunch of extra calories from fats and carbs along with the protein. After the gym, regardless of your routine, protein supplements aid in recovery and muscle growth so you can get better faster. Also, a shake will make you feel more full than that Subway sandwich or Moe's taco salad.

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## **References:**

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