

SportsNutrition

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THE ATHLETE'S KITCHEN

Athletes who want to build muscles and recover well from workouts often feel confused by ads for protein supplements. They wonder how much and what kinds of protein they should consume—and if egg whites or chicken can do the job. The following information can help you optimize your protein intake—and your peace of mind.

Question: "I want to bulk up. I've started drinking three protein shakes per day between meals. Is this enough or too much?"

Answer: To determine how many protein shakes you need, you should first determine how much protein your body actually can use. You need *adequate* protein to enhance muscle growth; excess protein is unlikely better.

Most exercise scientists agree 1 gram of protein/pound of body weight is a very generous protein allowance for athletes building muscle mass. (More likely, 0.5 to 0.75 gms protein/pound will do the job if you are eating plenty of calories—but let's be generous.) This means a novice 180 pound body builder gets more than enough protein with 180 grams of protein per day. He can easily consume that much with one quart of skim milk, two cans of tuna (i.e., two sandwiches at lunch), and one hefty (8 ounces) piece of meat/fish at dinner. Consuming protein shakes on top of this simply adds (expensive) calories. You could more wisely get the calories from carbs to fuel your workouts.

Question: *Is the protein in designer shakes more effective than egg whites, tuna, chicken and other standard foods?"*

Answer: With names like Protein Revolution and N-Large, the commercial protein products can leave you wondering if standard foods are an equal match. Plus, ads that rave "extremely bioavailable", "no cheap protein blends" and "highest quality protein" also leave the impression that tuna or milk don't quite make the grade. Doubtful.

The protein from natural foods works perfectly fine. Any animal protein is "high quality" and contains all the essential amino acids you need to build muscles. Hence, eating balanced meals and then drinking protein shakes for "high quality protein" is an outrageous concept—and expensive. For the \$32 you spend on a box with 12 MetRx packets, you can buy lots of powdered milk—the least expensive protein power around. You'll get not only high quality protein, but also a complete package of life-sustaining (infants live on milk) nutrition that is perfectly balanced by Nature.

In an overall well-balanced diet, engineered protein offers no advantages over chicken, beef, fish, eggs, milk and other standard protein-rich foods. If the ads lead you to believe "fast acting" whey is best, scientists suggest slowly digested casein offers a sustained release that is better for the long term. (Ten Have, 2007) Hence, as long as you are healthy with a functional intestinal tract, you need not fret about your ability to digest or utilize protein.

PROTEIN: Pros, Cons, and Confusion

Question: *Should I refuel with a protein shake after my workout?*

Answer: No. You should refuel with a carb shake that has a little protein. As an athlete, your body needs a foundation of carbohydrates to refuel your muscles. While about 20 to 25 grams protein post-workout optimizes muscle growth (Phillips, 2007), consuming excess protein displaces carbs. A hard weight-workout (3 sets of 8 to 10 reps) can reduce glycogen stores by about 35% (Martin, 2005). Train hard week after week with a low carb diet, and your workouts will suffer.

To fuel muscles, you should target 3 to 5 grams carb/lb body weight. If you weigh 150 lbs, that's 150-200 grams carb morning, afternoon and evening. When you chug a can of MetRx Ready-To-Drink Meal Replacement Shake with 40 grams of protein (at cost of at least \$3.60), you'll get only 12 grams of carbs. Chocolate milk (16 oz) would be a better bet that offer more carbs, adequate protein. If you prefer the convenience of the protein shake, be sure to bolster your carb intake with a banana and a wholegrain bagel as well.

Natural proteins offer all the amino acids touted by commercial products. Here's how two amino acids stack up:

Protein source	Isoleucine	Leucine
Met-Rx Whey Protein, 1 scoop	1.4 grams	2.3 grams
Chocolate milk, 16 oz	1.2	1.9
Tuna, 6 oz can	2.0	3.5
Cottage cheese, 1 cup	1.6	2.9

In general, engineered foods lack fiber, phytochemicals, and other health-protective nutrients. No engineered food can match the complex balance of nutrients designed by Nature. Sure you can grab a meal-in-a-can for "emergency food" on hectic days, but in the long run, real food is better.

Question: *What happens if I don't eat right after I exercise?*

Answer: A study with Marines during 54 days of basic training reports those who refueled with 100 calories of a recovery drink with 10 grams protein, 8 grams carb and 3 grams fat not only enhanced muscle protein deposition but also reported 33% fewer total medical visits, 28% fewer visits due to bacterial and viral infections, 37% fewer visits due to muscle/joint problems, and 83% fewer visits due to heat exhaustion compared to those who drank plain water. (Flakoll, 2004) Seems amazing that just 100 calories of a recovery drink could make such a strong impact on health, muscle soreness and hydration, but the message is clear: proper fueling at the right times is worth the effort. Don't under-estimate the value of refueling soon after you exercise. Enjoy cereal with milk, fruit yogurt, turkey sandwich, spaghetti with meat balls. Don't let a good sports diet be your missing link!

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