

"Nutritional Myths that Just Won't Die: Protein!"

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**"Nutritional Myths that Just Won't Die: Protein!"**

**By Will Brink**

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When it comes to the topic of sports nutrition there are many myths and fallacies that float around like some specter in the shadows. They pop up when you least expect them and throw a monkey wrench into the best laid plans of the hard training athlete trying to make some headway.

Of all the myths that surface from time to time, the protein myth seems to be the most deep rooted and pervasive. It just won't go away. The problem is, exactly who, or which group, is perpetuating the "myth" cant be easily identified.

You see, the conservative nutritional/medical community thinks it is the bodybuilders who perpetuate the myth that athletes need more protein and we of the bodybuilding community think it is them (the mainstream nutritional community) that is perpetuating the myth that athletes don't need additional protein! Who is right?

The conservative medical/nutritional community is an odd group. They make up the rules as they go along and maintain what I refer to as the "nutritional double standard." If for example you speak about taking in additional vitamin C to possibly prevent cancer, heart disease, colds, and other afflictions, they will come back with "there is still not enough data to support the use of vitamin C as a preventative measure for these diseases," when in fact there are literary hundreds of studies showing the many benefits of this vitamin for the prevention and treatment of said diseases.

And of course, if you tell them you are on a high protein diet because you are an athlete they will tell you, "oh you don't want to do that, you don't need it and it will lead to kidney disease" without a single decent study to back up their claim! You see they too are susceptible to the skulking myth specter that spreads lies and confusion. In this article I want to address once and for all (hopefully) the protein myth as it applies to what the average person is told when they tell their doctor or some anemic "all you need are the RDAs" spouting nutritionist that he or she is following a high protein diet.

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### Myth #1 "Athletes don't need extra protein"

I figured we should start this myth destroying article off with the most annoying myth first. Lord, when will this one go away? Now the average reader person is probably thinking "who in the world still believes that ridiculous statement?" The answer is a great deal of people, even well educated medical professionals and scientists who should know better, still believe this to be true. Don't forget, the high carb, low fat, low protein diet recommendations are alive and well with the average nutritionist, doctor, and of course the "don't confuse us with the facts" media following close behind.

For the past half century or so scientists using crude methods and poor study design with sedentary people have held firm to the belief that bodybuilders, strength athletes of various types, runners, and other highly active people did not require any more protein than Mr. Potato Head.....err, I mean the average couch potato.

However, In the past few decades researchers using better study designs and methods with real live athletes have come to a different conclusion altogether, a conclusion hard training bodybuilders have known for years. The fact that active people do indeed require far more protein than the RDA to keep from losing hard earned muscle tissue when dieting or increasing muscle tissue during the off season.

In a recent review paper on the subject one of the top researchers in the field (Dr. Peter Lemon) states "...These data suggest that the RDA for those engaged in regular endurance exercise should be about 1.2–1.4 grams of protein/kilogram of body mass (150%–175% of the current RDA) and 1.7 – 1.8 grams of protein/kilogram of body mass per day (212%–225% of the current RDA) for strength exercisers."

Another group of researchers in the field of protein metabolism have come to similar conclusions repeatedly. They found that strength training athletes eating approximately the RDA/RNI for protein showed a decreased whole body protein synthesis (losing muscle jack!) on a protein intake of 0.86 grams per kilogram of bodyweight. They came to an almost identical conclusion as that of Dr. Lemon in recommending at least 1.76g per kilogram of bodyweight per day for strength training athletes for staying in positive nitrogen balance/increases in whole body protein synthesis.

This same group found in later research that endurance athletes also need far more protein than the RDA/RNI and that men catabolize (break down) more protein than women during endurance exercise.

They concluded "In summary, protein requirements for athletes performing strength training are greater than sedentary individuals and are above the current Canadian and US recommended daily protein intake requirements for young healthy males." All I can say to that is, no sh%# Sherlock?!

Now my intention of presenting the above quotes from the current research is not necessarily to convince the average athlete that they need more protein than Joe shmoe couch potato, but rather to bring to the readers attention some of the figures presented by this current research.

How does this information relate to the eating habits of the average athlete and the advice that has been found in the lay bodybuilding literature years before this research ever existed? With some variation, the most common advice on protein intakes that could be—and can be— found in the

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bodybuilding magazines by the various writers, coaches, bodybuilders, etc., is one gram of protein per pound of body weight per day.

So for a 200 pound guy that would be 200 grams of protein per day. No sweat. So how does this advice fair with the above current research findings? Well let's see. Being scientists like to work in kilograms (don't ask me why) we have to do some converting. A kilogram weighs 2.2lbs. So, 200 divided by 2.2 gives us 90.9. Multiply that times 1.8 (the high end of Dr. Lemon's research) and you get 163.6 grams of protein per day. What about the nutritionists, doctors, and others who call(ed) us "protein pushers" all the while recommending the RDA as being adequate for athletes?

Lets see. The current RDA is 0.8 grams of protein per kilogram of bodyweight:  $200 \text{ divided by } 2.2 \times 0.8 = 73$  grams of protein per day for a 200lb person. So who was closer, the bodybuilders or the arm chair scientists? Well lets see! 200g (what bodybuilders have recommended for a 200lb athlete) – 163g ( the high end of the current research recommendations for a 200lb person) = 37 grams (the difference between what bodybuilders think they should eat and the current research).

How do the RDA pushers fair? Hey, if they get to call us "protein pushers" than we get to call them

"RDA pushers!" Anyway,  $163\text{g} - 73\text{g} =$  (drum role) 90 grams! So it would appear that the bodybuilding community has been a great deal more accurate about the protein needs of strength athletes than the average nutritionist and I don't think this comes as any surprise to any of us.

So should the average bodybuilder reduce his protein intake a bit from this data? No, and I will explain why. As with vitamins and other nutrients, you identify what looks to be the precise amount of the compound needed for the effect you want (in this case positive nitrogen balance, increased protein synthesis, etc) and add a margin of safety to account for the biochemical individuality of different people, the fact that there are low grade protein sources the person might be eating, and other variables.

So the current recommendation by the majority of bodybuilders, writers, coaches, and others of one gram per pound of bodyweight does a good job of taking into account the current research and adding a margin of safety. One things for sure, a little too much protein is far less detrimental to the athletes goal(s) of increasing muscle mass than too little protein, and this makes the RDA pushers advice just that much more.... moronic, for lack of a better word.

There are a few other points I think are important to look at when we recommend additional protein in the diet of athletes, especially strength training athletes. In the off season, the strength training athletes needs not only adequate protein but adequate calories. Assuming our friend (the 200lb bodybuilder) wants to eat approximately 3500 calories a day, how is he supposed to split his calories up?

Again, this is where the bodybuilding community and the conservative nutritional/medical community are going to have a parting of the ways... again. The conservative types would say "that's an easy one, just tell the bodybuilder he should make up the majority of his calories from carbohydrates."

Now lets assume the bodybuilder does not want to eat so many carbs. Now the high carb issue is an

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entirely different fight and article, so I am just not going to go into great depth on the topic here. Suffice it to say, anyone who regularly reads articles, books, etc, from people such as Dan Duchaine, Dr. Mauro DiPasquale, Barry Sears PhD, Udo Erasmus PhD, yours truly, and others know why the high carb diet bites the big one for losing fat and gaining muscle (In fact, there is recent research that suggests that carbohydrate restriction, not calorie restriction per se, is what's responsible for mobilizing fat stores).

So for arguments sake and lack of space, let's just assume our 200lb bodybuilder friend does not want to eat a high carb diet for his own reasons, whatever they may be.

What else can he eat? He is only left with fat and protein. If he splits up his diet into say 30% protein, 30 % fat, and 40% carbs, he will be eating 1050 calories as protein ( $3500 \times 30\% = 1050$ ) and 262.5g of protein a day (1050 divided by 4 = 262.5). So what we have is an amount (262.5g) that meets the current research, has an added margin of safety, and an added component for energy/calorie needs of people who don't want to follow a high carb diet, which is a large percentage of the bodybuilding/strength training community. here are other reasons for a high protein intake such as hormonal effects (i.e. effects on IGF-1, GH, thyroid ), thermic effects, etc., but I think I have made the appropriate point.

So is there a time when the bodybuilder might want to go even higher in his percent of calories >from protein than 30%? Sure, when he is dieting.

It is well established that carbs are "protein sparing" and so more protein is required as percent of

calories when one reduces calories. Also, dieting is a time that preserving lean mass (muscle) is at a premium. Finally, as calories decrease the quality and quantity of protein in the diet is the most important variable for maintaining muscle tissue (as it applies to nutritional factors), and of course protein is the least likely nutrient to be converted to bodyfat.

In my view, the above information bodes well for the high protein diet. If you tell the average RDA pusher you are eating 40% protein while on a diet, they will tell you that 40% is far too much protein. But is it? Say our 200lb friend has reduced his calories to 2000 in attempt to reduce his bodyfat for a competition, summer time at the beach, or what ever. Lets do the math.  $40\% \times 2000 = 800$  calories from protein or 200g (800 divided by 4). So as you can see, he is actually eating less protein per day than in the off season but is still in the range of the current research with the margin of safety/current bodybuilding recommendations intact.

Bottom line? High protein diets are far better for reducing bodyfat, increasing muscle mass, and helping the hard training bodybuilder achieve his (or her!) goals, and it is obvious that endurance athletes will also benefit from diets higher in protein than the worthless and outdated RDAs.

Myth #2 "High protein diets are bad for you"

So the average person reads the above information on the protein needs and benefits of a high protein diet but remembers in the back of their mind another myth about high protein intakes. "I thought high protein diets are bad for the kidneys and will give you osteoporosis! " they exclaim with conviction and

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indignation. So what are the medical facts behind these claims and why do so many people, including some medical professionals and nutritionists, still believe it?

For starters, the negative health claims of the high protein diet on kidney function is based on information gathered from people who have preexisting kidney problems. You see one of the jobs of the kidneys is the excretion of urea (generally a non toxic compound) that is formed from ammonia (a very toxic compound) which comes from the protein in our diets. People with serious kidney problems have trouble excreting the urea placing more stress on the kidneys and so the logic goes that a high protein diet must be hard on the kidneys for healthy athletes also.

Now for the medical and scientific facts. There is not a single scientific study published in a reputable peer – reviewed journal using healthy adults with normal kidney function that has shown any kidney dysfunction what so ever from a high protein diet. Not one of the studies done with healthy athletes that I mentioned above, or other research I have read, has shown any kidney abnormalities at all. Furthermore, animals studies done using high protein diets also fail to show any kidney dysfunction in healthy animals.

Now don't forget, in the real world, where millions of athletes have been following high protein diets for decades, there has never been a case of kidney failure in a healthy athlete that was determined to have been caused solely by a high protein diet. If the high protein diet was indeed putting undo stress on our kidneys, we would have seen many cases of kidney abnormalities, but we don't nor will we.

>From a personal perspective as a trainer for many top athletes from various sports, I have known bodybuilders eating considerably more than the above research recommends (above 600 grams a day) who showed no kidney dysfunction or kidney problems and I personally read the damn blood tests! Bottom line? 1–1.5 grams of protein per pound of bodyweight will have absolutely no ill effects on the kidney function of a healthy athlete, period. Now of course too much of anything can be harmful

and I suppose it's possible a healthy person could eat enough protein over a long enough period of time to effect kidney function, but it is very unlikely and has yet to be shown in the scientific literature in healthy athletes.

So what about the osteoporosis claim? That's a bit more complicated but the conclusion is the same. The pathology of osteoporosis involves a combination of many risk factors and physiological variables such as macro nutrient intakes (carbs, proteins, fats), micro nutrient intakes (vitamins, minerals, etc), hormonal profiles, lack of exercise, gender, family history, and a few others.

The theory is that high protein intakes raise the acidity of the blood and the body must use minerals from bone stores to "buffer" the blood and bring the blood acidity down, thus depleting one's bones of minerals. Even if there was a clear link between a high protein diet and osteoporosis in all populations (and there is not) athletes have few of the above risk factors as they tend to get plenty of exercise, calories, minerals, vitamins, and have positive hormonal profiles.

Fact of the matter is, studies have shown athletes to have denser bones than sedentary people, there are millions of athletes who follow high protein diets without any signs of premature bone loss, and we

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don't have ex athletes who are now older with higher rates of osteoporosis.

In fact, one recent study showed women receiving extra protein from a protein supplement had increased bone density over a group not getting the extra protein! The researchers theorized this was due to an increase in IGF-1 levels which are known to be involved in bone growth.

Would I recommend a super high protein diet to some sedentary post menopausal woman? Probably not, but we are not talking about her, we are talking about athletes. Bottom line? A high protein diet does not lead to osteoporosis in healthy athletes with very few risk factors for this affliction, especially in the ranges of protein intake that have been discussed throughout this article.

### Myth #3 "All proteins are created equal"

How many times have you heard or read this ridiculous statement? Yes, in a sedentary couch potato who does not care that his butt is the same shape as the cushion he is sitting on, protein quality is of little concern. However, research has shown repeatedly that different proteins have various functional properties that athletes can take advantage of.

For example, whey protein concentrate (WPC) has been shown to improve immunity to a variety of challenges and intense exercise has been shown to compromise certain parts of the immune response. WPC is also exceptionally high in the branch chain amino acids which are the amino acids that are oxidized during exercise and have been found to have many benefits to athletes. We also know soy has many uses for athletes, and this is covered in full on the Brinkzone site in another article.

Anyway, I could go on all day about the various functional properties of different proteins but there is no need. The fact is that science is rapidly discovering that proteins with different amino acid ratios (and various constituents found within the various protein foods) have very different effects on the human body and it is these functional properties that bodybuilders and other athletes can use to their advantage.

Bottom line? Let the people who believe that all proteins are created equal continue to eat their low

grade proteins and get nowhere while you laugh all the way to a muscular, healthy, low fat body!

### Conclusion

Over the years the above myths have been floating around for so long they have just been accepted as true, even though there is little to no research to prove it and a whole bunch of research that disproves it! I hope this article has been helpful in clearing up some of the confusion for people over the myths surrounding protein and athletes. Of course now I still have to address even tougher myths such as "all fats make you fat and are bad for you," "supplements are a waste of time," and my personal favorite, "a calorie is a calorie."

The next time someone gives you a hard time about your high protein intake, copy the latest study on the topic and give it to em. If that does not work, role up the largest bodybuilding magazine you can

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find and hit hem over the head with it!

See more excellent bodybuilding, fat loss, and sports nutrition articles from Will Brink here:

<http://www.brinkzone.com/onlinearticles.html>

And see Will's other websites here:

<http://www.dietsupplementsreview.com>

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### **Nutritional Supplement**

**By Rolf Rasmusson**

#### **Nutritional Supplement by Rolf Rasmusson**

Nutritional Supplement - what is it?

So what is a nutritional supplement? Nutritional supplement is a product that provides additional sources of nutrients when people don't get enough of them through food or when a well-designed diet doesn't work. Nutritional supplement increases the intake of vitamins, amino acids, minerals, herbs, etc. It gives you the opportunity to achieve the average daily intake of some specific nutrient.

Nutritional Supplement - be careful.

You have to be careful when purchasing some nutritional supplement, since supplements are not required to meet FDA standards. There are many fake supplement products on the market nowadays, so make sure that you consult with your doctor or other health professionals if some type of nutritional supplement is right for you. Also read the label carefully since many ingredients may be harmful for you.

Nutritional Supplement - sports supplements.

If you are an athlete, you will have access to some types of nutritional supplement or supplements developed specifically for athletes. For example, according to many sport researchers, caffeine supplements claim that caffeine improves athletic performance, increases energy, delays fatigue, improves fat burning, and enhances body fat loss. Protein supplements claim that protein supports muscle growth, increases muscle strength and mass, improves recovery, etc. Creatine supplements claim that creatine improves performance, increases muscle mass, delays fatigue.

If you are an athlete, you need to be careful about using nutritional supplements as there is very little research regarding the safety of some of the supplements. Don't just believe the supplement labels' claims, but instead believe only those facts that have been scientifically proven. Consult with doctors,

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health professionals, and fitness trainers. Sometimes a well–designed diet is enough to supply your body with everything it needs, so don't turn to supplement right away.

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