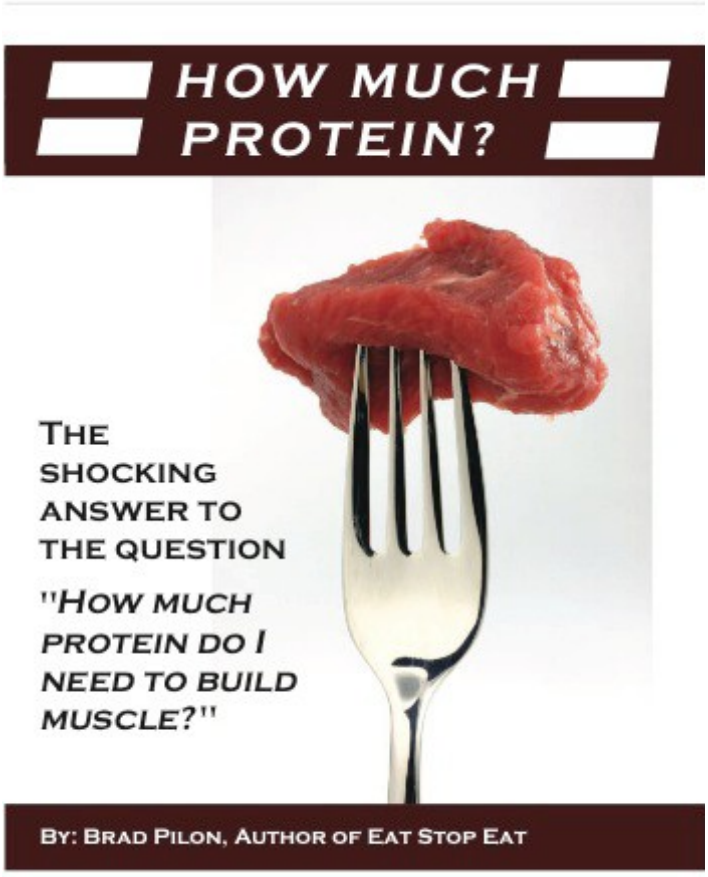
Here is the “Leaked Chapter” for the Readers of Fitness Black Book



How Much Protein?

By: Brad Pilon

The information in this book is for educational purposes only. The information in this book is based on my own personal experiences and my own interpretation of available research. It is not medical advice and I am not a medical doctor.

The information within this book is meant for healthy adult individuals. You should consult with your physician to make sure it is appropriate for your individual circumstances. Keep in mind that nutritional needs vary from person to person, depending on age, sex, health status and total diet.

If you have any health issues or concerns please consult with your physician. Always consult your physician before beginning or making any changes in your diet or exercise program, for diagnosis and treatment of illness and injuries, and for advice regarding medications.

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As you begin reading this book, you may be thinking to yourself *"does the world really need another book on protein?"* The truth is this book is not really about protein *per se*, but rather it is about building muscle. However, over the last 50 years 'protein' has become synonymous with 'muscle'. When people think of bodybuilders, they think of protein shakes – lots of them.

So the purpose of this book is to examine the relationship between the protein you eat and your ability to build muscle. In other words, I am trying to answer the question – Can nutrition – specifically the amount of protein you eat – help you build muscle?

Protein is one of the most popular and controversial topics in all of nutrition. It has become the 'nutritional golden child' of muscle building and fat loss. Some people may try to avoid eating carbohydrates, and others may avoid fat, but nobody avoids protein.

It may be hard to believe, but protein hasn't always been considered the nutrient that can do no wrong. Throughout history each of the major macronutrients (protein, fat and carbohydrates) has taken its turn as the evil stepchild in the trio.

In the early 1900's diet gurus such as John Harvey Kellogg (the creator of the modern cereal food giant Kellogg's) and Horace Fletcher rallied against the intake of dietary protein due to its "negative effects on digestion and health". [Polland M, 2008]

In the 1950's Ancel Keys lead the charge against fat, saturated fat and cholesterol as he proclaimed they were the major cause of heart disease. His campaigning was so successful that even to this day we all live in fear of dietary fat even though there are hundreds of research papers that have since proven that different kinds of fat have different properties in the body (including some that are beneficial) and that dietary cholesterol may not have a cause-and-effect relationship with the cholesterol our bodies.

In the late 90's and early 2000's Dr. Robert Atkins lead the low carb revolution claiming carbohydrates were the cause of all of our ills.

We are now living in the wake of the low carb AND 'fat is bad for you' era's. Both ideas are firmly rooted in the nutrition and fitness industries as well as in the mind of the markets.

Protein has had enough time to get off the 'bad guy' list and is perfectly positioned to take top spot on the podium of healthy nutrients. It has been

almost 100 years since Kellogg and Fletcher were trying to convince the population that protein was the bad guy. By default protein is the only macronutrient left that could possibly be good for us. So the stage is set once again for protein to be the cure for all of our ills.

Fitness magazines constantly repeat the pro-protein message: “If you want to build big muscles you have to eat your protein”, “If you want to lose fat and look like a fitness model, then you have to eat your protein”. Browse the pages of any popular fitness magazine and you will find the following two golden rules of dietary protein:

1. Eat a minimum of 30 grams of protein every two to three hours.
2. Always drink your post-workout protein shake!

When I first started working in the sports supplement industry I was a sales person at a local supplement shop. I believed in these protein recommendations and followed them with almost fanatical dedication. I drank my protein shakes and ate my protein bars. In fact, it wasn’t unusual for me to drink 4 to 5 shakes per day. I would constantly keep my protein intake up around 250 grams per day. Why? Because I thought it was scientifically PROVEN that more protein meant more muscle, and more muscle was what I wanted.

When a customer came into the store, it didn’t matter what they were shopping for, I knew that I could convince them to buy protein. It wasn’t because I was

an amazing sales person, or that I was sinister or deceitful, rather it was because I believed in protein so much that my enthusiasm became contagious. I would get people so worked up about how great protein was for them that they would end up buying two sometimes three tubs of the stuff!

Nowadays, I realize that much of what I was led to believe was fact was really just very clever (and powerful) marketing, combined with my inability to truly understand the available research.

However, I'm not embarrassed by my mistakes. After all, if you've ever seen a protein supplement advertisement you know how convincing they can be. The protein supplement industry is massive, with projected sales of over 6 billion dollars by 2011 [Packaged Facts, 2008].

With this much money on the line, I'm sure you can imagine why so much time and effort is spent on the marketing of protein supplements. But the sports supplement industry isn't the only one that stands to profit from the new golden era of protein. Beef, poultry, pork, dairy and eggs are the major sources of protein in the North American diet and you can bet these industries are capitalizing big time on the new found love affair we have with protein.

These food industries dwarf the supplement industry so they have even more money to spend on advertising to make sure you are reminded that protein is the critical piece of your diet and fitness puzzle.

As an example of the food industry's interest in promoting protein as healthy we can look to the fact that the funding for the scientific meeting *"Protein Summit 2007: Exploring the Impact of High-Quality Protein on Optimal Health"* was supplied by the following industries: Egg Nutrition Center, National Dairy Council, National Pork Board, and The Beef Checkoff through the National Cattlemen's Beef Association [Fulgoni VL, 2008].

The pro-protein message doesn't just come from the industry side. According to the mass media, there are many different reasons why we should eat more protein, from improved overall health, to fat burning, to muscle building. On any given day you could find an article that says eating more protein will fix any and all of your diet and fitness shortcomings.

The theory is simple: by eating more protein you can force your body to an improved level of function, including larger muscles, less fat, and a host of other health benefits. The question is whether or not the scientific research actually supports these theories.

Protein has been given so many benefits by the media that it is hard to find a health benefit that protein does NOT have. From preventing diabetes to building muscle, protein seems to be able to do it all. These are some pretty big claims, and it would be amazing if even half of these claims were true. The prospect of curing many of the world's health issues by simply increasing the amount of protein we eat is definitely a very exciting concept, but again, we need to know if it is indeed backed by scientific research.

In order to get to the bottom of this story and figure out just how much protein we really need, it makes sense for us to start at the beginning.
Of all the claims about protein, the one that almost everyone simply accepts as fact is that eating protein builds more muscle. It is this one simple assumption that leads to so many of the additional benefits of protein. Surprisingly, this assumption has never been fully proven.

I can still remember the time when I first realized that protein may not be the iron-clad muscle builder it was made out to be. It was during very exclusive dinner in Glasgow Scotland, where I had just put the finishing touches on a new research contract examining the muscle building and ergogenic (performance enhancing) effects of a new supplement.

It was a night of firsts for me. It was my first time to Scotland, my first time trying scotch and blood pudding (and later in my trip, Hagus), and it was the first time I had ever had a world renowned scientist openly question my belief in protein, in front of a table full of academics no less.

Charged As a True Believer

It was during the closing comments of the dinner, when the pointed comments about protein came up. I had made a suggestion that adding protein to the new formula may in fact increase the muscle building effects. The lead scientist looked at me and said "Brad, if you BELIEVE in protein, then we will add it into the formula". As soon as I heard this exact statement I realized they understood and knew something about protein and muscle building that I did not.

At this moment I realized I was missing some vital information about the connection between protein and building muscle and that everyone else at the table had this information. I felt as though my understanding was wholly inadequate, as the concept of 'belief' has no place in a conversation about known scientific facts. And if a scientist needed to caudle my feelings of belief about consuming protein then they also recognized that I simply had not done enough research to bring a sound scientific argument to this dinner table. At that moment I felt like I was in my first year of university all over again.

In the world of science you do not ‘believe’ in anything, you either understand the facts or you do not.

In science, to believe in something means to have a certain amount of blind optimism that you use to fill in the gaps where you are missing the facts, which is really a kind way of saying you are already biased towards an outcome (not a good allegation if you are in science).

Afterwards, when I had arrived back in my hotel room, I started to think about that statement “If you BELIEVE in protein”. Was I the only person at the table who believed in protein? And what did they mean by ‘believe’ – I thought it was a scientifically proven fact? I thought they knew this to be true as well. An uncomfortable feeling starting gnawing at me as I contemplated the very real possibility that I was dead wrong about how much protein I or anyone else really needed to eat to build muscle.

This was accompanied by another feeling of betrayal and shame as I started to feel like I was summarily lied to and made to be a fool all these years. After this trip I decided to get to the bottom of the story about dietary protein and find the true scientific answer to the question “how much protein do I need to build muscle”.

The purpose then of this book is to review the current body of scientific research and find out if there is any truth to the alleged muscle building benefits of protein. Specifically, it will examine the benefits of eating high protein diets (In excess of the 90 grams per day that is the average intake in North America [Fulgoni VL, 2008]), and it will also examine the muscle building benefits of post-workout protein intake.

I would like to take this time to point out that I do agree that some of us need to eat a little more protein than we typically do, (some people still consume less than the recommended amounts).

I also recognize that protein malnutrition is a serious and documented health condition (albeit mostly occurring in very young children), and that protein supplementation may possibly improve the health of hospitalized adult patients [Potter J, 1998].

The actual recommended amounts for daily protein intake vary from country to country, but generally fall into the range of 40-60 grams of protein per day. Therefore, I will review the evidence that supports the theory that we need "super-mega" amounts of protein that are well in excess (triple or even quadruple amounts) of the recommended 40-60 grams per day in order to pack on muscle. I will also review the research that supports the necessity of post-

workout protein meals (whether from foods or protein supplements) for the purpose of muscle growth.

Along the way I will show you the difference between a real scientific end point like “Increased Muscle Mass” and a **surrogate** end point like “Increased Protein synthesis” and how these two very different measurements end up being confused and lumped together as the same thing for marketing purposes.
I also will share with you the exact amount of protein, or range of protein intakes that an adult human needs to eat to allow for measureable increases in skeletal muscle mass.

Finally I will explain where the fitness industry gets its information about the effects of protein and how this information can be and usually is misinterpreted.