

## What Type of Protein & When?

Hi, All! Everyone here is always asking what is the best protein, So, here is the low-down on the best sources of protein and when to consume them to maximize their benefits to your muscle-building and weight-loss efforts.

The source for my information is the article "Protein Power 8 top sources of protein, why you need them and how to use them, by Jose Antonio, Ph.D, C.S. C.S. (Muscle Media magazine, Nov/Dec 2003) If you want more specific scientific info on the different types of protein, do an internet search and I am sure you will find the technical info you require.

Antonio starts out by saying that vegetable sources of protein are generally inferior to animal sources. "Plant proteins are low in certain amino acids and are poorly digested...soy protein is one exception."

Whey Protein - whey protein is the second most abundant protein derived from milk ( the most abundant is casein). Whey protein is found mainly in Ready-To-Drink shakes, meal-replacement powders, and protein powders.

Why Whey? Whey contains all the essential amino acids and is especially high in Branched-chain amino acids (BCAAS) ,which promote muscle growth, and glutamine (which is an immune-boosting amino acid). Whey is a very fast-absorbing protein, it enters your system faster than most proteins, making it very anabolic (pro-muscle growth). "a whey protein meal produces a 68% increase in protein synthesis".

When and how to use whey: Immediately after an intense workout, combining it with a high-glycemic carbohydrate may be the ideal post-workout meal.

Fish - Dr. Antonio puts fish as the best all-around protein source. Fish earns that title because it is not only a complete protein, but it also contains healthy fats not found in land dwelling animals.

Why Fish? Eating fish improves your insulin sensitivity. There are differing theories on why fish improve insulin sensitivity, but the end result is that less insulin may mean less fat deposition.

When and how to use fish : "Fish should be the primary protein food that you eat. It has a great amino acid profile and confers health benefits - related both to the protein itself and the omega-3 fatty acids - that you just can't find in other proteins."

Soy Protein - Soy is the best non-animal source of protein. "...often accused of being inferior.....because it can be limiting in the amino acid methionine...methionine supplementation in an adult's diet is usually not necessary because at levels normally consumed, soy protein provides sufficient methionine."

Why Soy? Soy protein is as digestible as other types of protein and has 'powerful anti-oxidant capabilities' which may provide health and anti-cancer benefits. Soy-based meal replacements have been shown in recent studies to be effective at 'lowering body weight, fat mass and reducing LDL cholesterol.'

When and how to use soy: Soy is best used as part of your meal-replacement powder. There are also many different soy products on the market (soy milk, tofu, miso soup).

Milk - "There is an assortment of bioactive peptides that have been identified in milk which may improve your overall health, as well as provide the amino acids needed for active individuals."

Why Milk? Milk contains all of the essential amino acids, and those bioactive peptides. Stick to low-fat or skim milk if you are trying to get or stay lean.

When and how to use milk : Because most of the protein in milk is casein, and casein is a slow-absorption protein, milk is a good evening protein supplement. Drink milk before bed and you will get a slow feed of amino acids while you sleep. This supply of amino acids means your body has what it needs on hand to facilitate muscle recovery.

Chicken - (you knew it had to be on the list somewhere, didn't you?) Probably the single most consumed protein. The fat content can vary dramatically if you eat the skin. "a 100g serving of light-meat chicken with skin contains 222 calories and 10.85g of fat compared to 173 calories and 4.51g of fat if you remove the skin." 141% more fat with the skin!

Why Chicken? It has a complete amino acid profile and is a low-fat choice when skinless. As part of a well-rounded diet chicken can "decrease total cholesterol and LDL cholesterol".

When and how to use chicken : As part of your regular meals. (More recipes will be forthcoming!)

Casein - This is the main protein found in milk. You can also find it in various protein supplements, meal-replacement shakes and powders. Because casein 'clots' in your stomach (ain't that a pretty image?) it is a slower absorbing protein.

Why Casein? Casein has 'opposite' properties of whey protein. They are both

great proteins, but where whey has anabolic effects, casein is lacking and where whey lacks anti-catabolic effects casein has 'a very profound anti-catabolic effect' which means it inhibits muscle breakdown.

When and how to use casein: Similar to milk, this is a good protein to consume before bed, maybe make a shake with casein powder and milk for a double whammy to aid in recovery overnight.

Eggs - Eggs are back on the good list! They got a bad rap for awhile for having too much fat and cholesterol. Some rate eggs as the highest quality protein, and the yolk is full of vitamins and minerals.

Why Eggs? Eggs are rich in essential vitamins and minerals. Egg consumers have a higher daily nutrient intake, especially vitamins B12, C, E and A. Also people who ate 4 or more eggs daily "had lower blood cholesterol levels than those who ate one egg or less daily." And eggs are CHEAP!

How and when to use eggs : Omelets are a great way to get your daily eggs, using one whole egg and three or more egg whites (depending on your protein needs). Throw in some vegetables and soy cheese and you have a great way to start the day! If you are trying to cut back on calories, you could just use the whites (but you will miss out on some of the nutrient benefits).

Beef - The fat content of beef can vary greatly, look for 90% lean or leaner. The article gives a tip that may be helpful - the cuts at the beginning of the alphabet have more fat than those at the end of the alphabet (ground Beef has more fat than ground Sirloin, for example).

Why Beef? Beef has all the essential amino acids, making it an excellent protein source, and is also loaded with zinc and iron. Beef, like eggs, has gotten an undeserved bad rap. The key is to choose lean beef. "A study published in 'Nutrition' found that two groups of overweight women who exercised and consumed a restricted-calorie diet with either lean beef or chicken as the main protein source both demonstrated similar weight loss...decreases in body fat percentage, total cholesterol and LDL cholesterol."

How and when to use beef: Once or twice a week, as part of your regular diet. "Because of the fat content (even lean beef has a bit of fat), don't eat it right after exercise."

Well, I hope that helps you all switch things up a bit and speed up your results as they pertain to your fitness goals.