

Macronutrients

The term 'macronutrients' refers to protein, carbohydrates, and fats. These three major components are responsible for calories. Each plays an important role in sustaining energy, metabolism and bodily functions.

Caloric content of these macronutrients are:

1 gram of carbohydrates = 4 calories.

1 gram of protein = 4 calories.

1 gram of fat = 9 calories.



Carbohydrates

The power behind the muscle – carbs are processed with water and turned into muscle glycogen, which provides the power behind the muscle. A carb-depleted muscle is not nearly as strong as a muscle full of glycogen because there is no water and therefore less blood within the muscle to contract or drive the movement. Carbohydrates create an insulin response, which helps transport protein into the muscle to aid in recovery and building of new tissue. Carbs are also important for hormonal health. Low carb diets tend to be low in the vitamins and minerals that help manage hormonal fluctuations, particularly in females. Furthermore, without carbs your body goes into ketosis. While ketosis is not necessarily a bad place to be, it is quite uncomfortable to get there and one carb heavy meal can throw you out of ketosis entirely.

Protein

Protein is essential for recovery and growth of bodily tissues. Protein is processed at 4 calories per gram, which is the same as carbohydrate. However, protein has a higher metabolic rate due to a higher thermogenic effect. Protein is broken down into 21 amino acids, of which 8 are essential and must be consumed through food, 7 are conditionally essential meaning they cannot be constructed by the body during times of illness, injury, or extreme stress, and 6 are non-essential aminos that can be produced by the body and do not need to be acquired through food. Protein is particularly important during times of lower caloric intake because it prevents the breakdown of muscle tissue, and because muscle requires more calories to sustain than fat does, it helps maintain resting metabolic rate.

Myth: Extra protein will build more muscle faster because of the higher anabolic response. False...to an extent, yes, protein synthesis is important, but the body can only process so much protein at one time and muscles can only grow so fast.

Fat: Fat is a source of energy often burned once the glycogen stores in the muscle have been depleted. Fat is a more concentrated energy source, with 9 calories per gram. Fat is essential for healthy skin and hair, as well as being responsible for transporting fat-soluble vitamins. Due to the longer digestion rate, fat also provides satiety.

So let's do some math: I weigh 120 pounds, I eat 1500 calories a day (where I sit best, to maintain 19% bodyfat, AND still be able to perform in the gym, have strength, hence create change in my physique. This is where YOU must find where You and your BODY wants to 'live', your recipe for gains, while maintaining leanness (if you are at your lean place, if not, you must first get there...so your calorie amounts, and your learning, will need to continue on...

I eat 4x a day (that works for me). I don't snack.

If I am aiming for a 30/40/30 spread (30% protein, 40% carbs, 30% fat), I gotta do the math.....

- 30% of 1500 is 450 calories ($1500 \times .3$). There are 4 calories in each gram of protein, so 450 divided by 4 is 112 grams of protein. If I divide that into 4 meals, it's around 25-30 grams of protein.

- 40% of 1500 is 600 calories, and there are again, 4 calories in a gram of carbs, so 600 divided by 4 is 150 grams of carbs. So app 35 per meal.

- 30% of 1500 is 450 calories, and there are 9 calories in a gram of fat, so 450 divided by 9 is 50 grams of fats, app 10-12 grams a meal.

NOTE: This was a starting place for me, but after many months of attempts, I was not losing, so I altered things...150 grams of carbs is too many for me, I am small (5'2") and I sit a lot with my work, both working against me (even though I train HARD for 60-90 minutes, it's clearly not enough). SO I will alter this ratio, to find what works for ME, at this point in my LIFE. I will likely bring the carbs DOWN and up the protein to 35 or 40%. And bring my carbs down...I will play with this for a while. (I HAVE found my percentages that work for ME, now it's up to you to find YOURS! And it can change with lifestyle changes, exercise volume etc. This is where it becomes INTUITIVE, but you always, ALWAYS want to ensure you have enough energy for training and recovery!!!