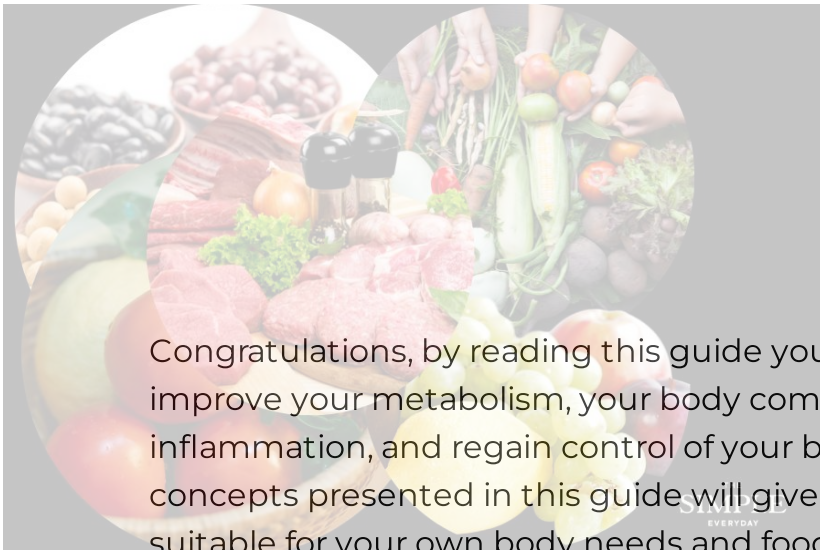


Understand your Macros and crash your cravings Weight Management Guide

**Simple facts you need to know about
protein, carbohydrates and fats.**

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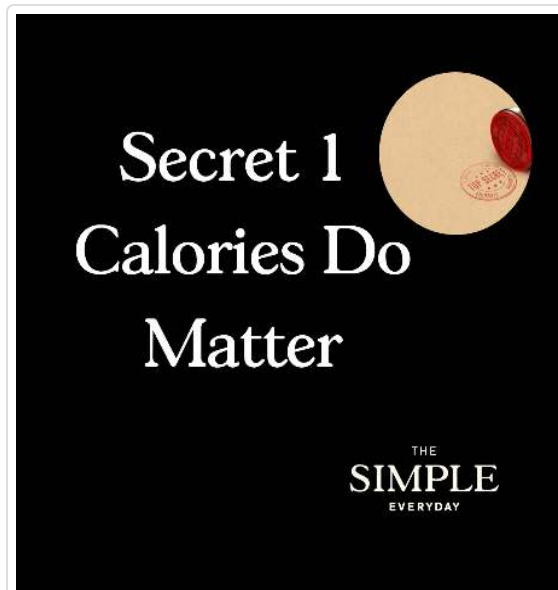
Congratulations, by reading this guide you have begun your journey to improve your metabolism, your body composition, take care of your inflammation, and regain control of your blood sugar. Understanding 'the concepts presented in this guide will give you the power to choose the diet suitable for your own body needs and food preferences.

The process of losing weight looks different for everyone, and it changes as you age—even if you've been a regular exerciser for decades. So, if you're feeling like losing weight after 40 is trickier than it used to be, that's completely normal. For one, your metabolism, body composition, and hormones are all changing, so past weight-loss tricks may not work the same now. Plus, it can take longer before the results start to kick in. Why? In your 40s, you start to lose muscle mass, which changes the composition of your body.

Having higher muscle mass raises your metabolism, so your body burns more calories. If you're losing muscle mass, your metabolism will start to slow down and you expend fewer calories. In your 40s you must shift your mindset from weight loss to 'fat loss' aka 'muscle building'. For this you need to understand the word 'macros'. From health blogs to social media, the term macros makes a regular appearance.

Please note this guide provides general sports/exercise related nutrition information and does not constitute nor is replacing medical or dietician advise for specific illness and conditions.

Studying nutrition in humans is very complex and not easy to draw absolute conclusions. Science is not easy to understand and difficult to apply it for practical everyday life. However, understanding the following principles is a very good start to build a strong and resilient body which will allow you to enjoy life beyond into your 80th and beyond. These principles aka secrets have been tested and demonstrated scientifically.



Regardless if your goal is fat loss or muscle building ultimately, the calories intake is the most important element of success. It doesn't matter what else you do. If you don't create the correct caloric intake, you simply won't achieve your goal, whether fat loss or muscle building.

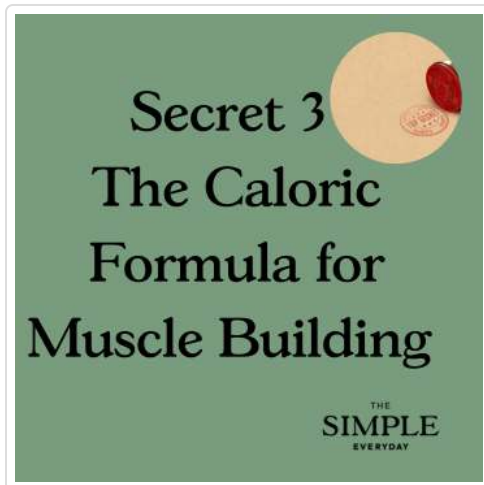
- If you want to lose weight you need to be in “calorie deficit” aka eat less than what you consume.
- If you want to build muscles you need to be in “calories surplus” aka eat more than what you consume or “maintenance calories” aka eat exactly what you consume.
- The “deficit” or “surplus” shouldn't be bigger than approximately 200 KCal of your “maintenance calories”.
- Maintenance calories = the amount of calories required to maintain your current body weight. A slow and sustainable approach for weight loss or muscle building is best for long-term improvements in body composition.

People are very confused about Macros.
So let's keep it simple: your body needs all of them; protein, carbs and fats.
Each macro serves different functions in the body:

- **Proteins** are very complex structures containing amino acids. The amino acids that are liberated from the proteins we eat are 80% absorbed in the liver.



- However, protein synthesis occurs in most tissues of the body and for building strength, we are interested in the muscle protein synthesis aka **MPS**.
- **MPS** is a continual process in the human body. Hence, when it comes to protein timing, the data suggests you will get a better outcome if you spread most of your protein intake over three to five high-quality protein meals per day.
- It is recommended between 2.2 and 3 grams of protein per kilogram of lean body mass. However, the recommendation is that the protein requirements increase by 1% per year over the age of 40. As we age, our ability to synthesize new proteins declines. This increases the need for protein if we want to achieve similar levels of muscle protein synthesis. If you are heading into menopause it's important to keep your protein intake higher due to lowering levels of oestrogen, increasing the loss of lean muscle mass and strength!
- **Carbs** are not the enemy. Your body requires a certain amount of glucose to function. It is non-negotiable. Your body requires it and if you do not provide through the right food it will obtain it through breaking down muscles!
- Just like carbs, you shouldn't fear **fats**. Without fats, cell membranes would not be able to maintain their integrity. Fat is also vital to creating many hormones, and to top it off... the human brain is about 60% fat! Those sound like pretty important reasons why fat is so important for human life in general.



The nutrition for muscle gain and fat loss have a lot in common.

Total Daily Energy Expenditure (TDEE) = Basal Metabolic Rate (BMR) + Non-Exercise Activity Thermogenesis (NEA) + Thermic Effect of Food (TEF) + Exercise Activity (EA).

MPS aka Muscle protein synthesis, the process of translating mRNA in muscle cells is always happening in the body. There's no special anabolic switch you flick to start building muscle.

- Muscle protein is in a continual process of turnover. As you lay down new muscle proteins, you also break down old and damaged ones through a reciprocal process called muscle protein breakdown.
- This makes protein the most critical macronutrient for you to consider for you to achieve your desired body composition outcomes.



Sleep deprivation and stress have a strong negative impact on your body's ability to lose fat and build lean muscle mass i.e. body composition. There is emerging evidence that sleep deprivation (<5.5 hours of sleep per night versus eight and a half hours of sleep per night) demonstrated the group that was sleep deprived lost nearly half their mass from lean body mass while the group that was non-sleep deprived and had plenty of sleep lost the vast majority of their body mass from fat tissue.

- Sleep deprivation increases ghrelin, so it increases hunger. It also seems to decrease energy expenditure, plus it negatively impacts recovery from exercise, which may also change which tissues are preferentially lost during a deficit.
- Minimizing stress is also important. People who do well with stress are people who acknowledge it exists. They don't try to pretend it's not there, but they also don't let it dominate their thoughts.

The Importance of Protein

Earlier, I spoke of macronutrients; that is, the protein, carbohydrates, and fats within foods that give us energy in the form of calories. I also mentioned that amino acids are the building blocks of protein. There are two types of amino acids:

- First, there are **essential amino acids**. These come directly from our diet and we need a daily supply; and for some amino acids, a supply at each meal.
- Then, we have **nonessential amino acids**. Our body produces these all on its own. You are now beginning to understand the vital role that protein plays and that it's function is not limited to building new muscle.

For instance, antibodies, used in an immune response, are made of proteins. When a toxin or otherwise foreign substance, known as an antigen, enters your body, your antibodies protect you by fighting them off.

In addition, many of your hormones, such as insulin, are made from proteins; and some like thyroid hormones, for example, are made from amino acids and transported by proteins. Thyroid hormones help to regulate your blood glucose and metabolic rate, and can impact growth hormone secretion and bone health.

Although all proteins are made of amino acids, **not all proteins contain the correct balance of amino acids your body needs**. Amino acids are the key to understanding protein needs, and I want to highlight three of them.

LEUCINE

This is an essential amino acid found in high quality protein and is the key amino acid that drives muscle protein synthesis. It's also a modulator of insulin signaling, a fuel for skeletal muscle, and a primary nitrogen donor for production of alanine and glutamine in skeletal muscle. In addition to muscle protein synthesis, Leucine also increases your ability to burn fatty acids. That all sounds well and good, but think about how you age. As we age, our muscles become less efficient at the critical processes of repair and replacement of existing proteins. This aging process is called anabolic resistance. We succumb to what's known as sarcopenia, the gradual loss of our muscle tissue. However, the good news, we can blunt or mitigate this aging process with the right choices of exercise and protein. This means Leucine is even more important as we get older, and it's also why our protein intake, both quantity and quality, should increase with age.

LYSINE

This one, in addition to starting with the letter "L" and having two syllables and sounding kind of similar to Leucine, is another essential amino acid, which means you can only get it via your diet.

Lysine plays a large role in synthesizing proteins within your body. Not only that, Lysine is also responsible for the proteins specifically in your connective tissues, tendons, which connect a bone to a muscle, and ligaments, which connect bones to bones at a section called a joint. Your tendons and ligaments are composed of a structural protein called collagen, and Lysine is instrumental in collagen formation.

Lysine also forms the backbone of the molecule called carnitine essential to help your muscles burn fats for fuel. If you are a vegetarian or vegan, need to be aware that Lysine is extremely low in grain products and virtually absent in wheat. Breads and cereals are very poor-quality proteins.

METHIONINE

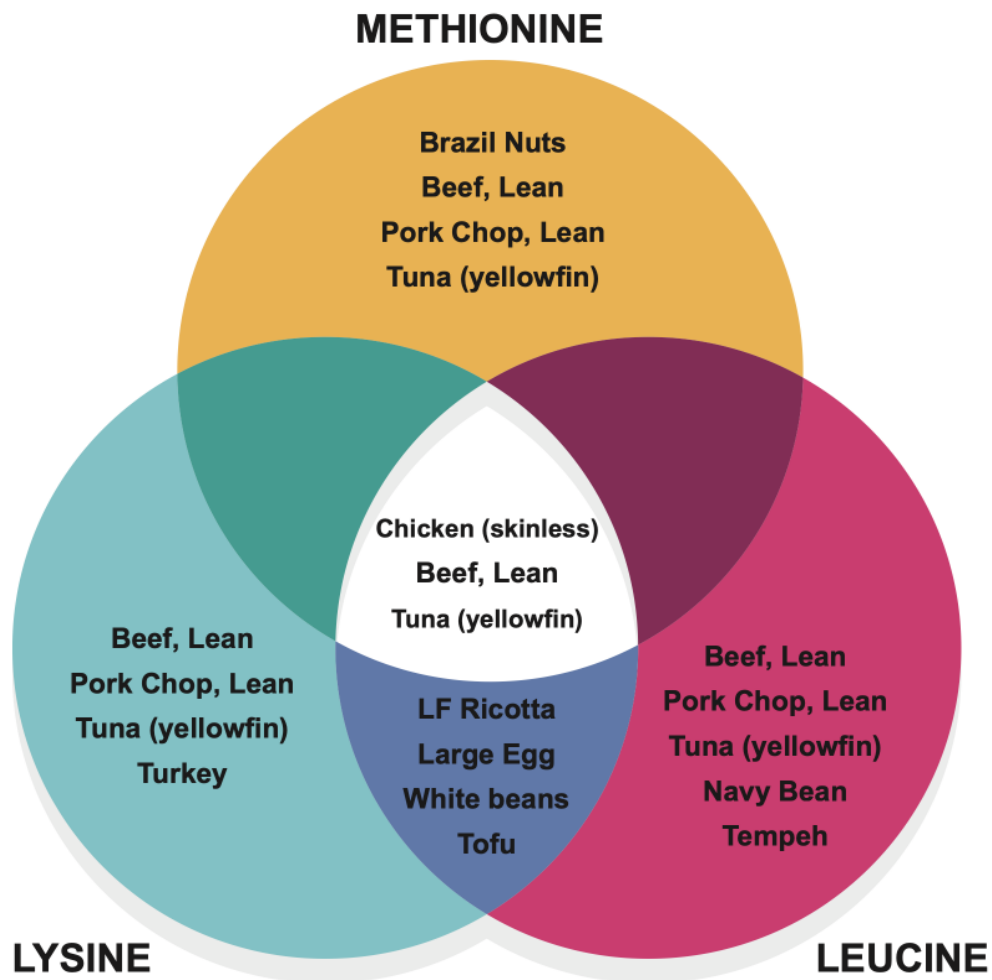
Finally, we come to an amino acid that has more than two syllables and doesn't start with the letter "L" but is just as important as its friends.

Methionine is responsible for making creatine (that thing you might think is a steroid because weight lifters love it, but it really isn't a steroid and is one of the most researched supplements around).

Methionine is also important for the synthesis of carnitine, which is instrumental in fatty acid oxidation⁴ and in the synthesis of another amino acid, cysteine, which leads to Glutathione, an antioxidant that helps with your immunity, and for production of DNA and taurine.

Methionine also plays a role in detoxification of metals like lead and mercury as well as protecting the cell from pollutants due to its sulfur side groups. Finally, methionine is always the first amino acid transcribed from mRNA so without enough of it, protein synthesis doesn't even start.

If you are a vegetarian or vegan, need to be aware that Methionine is often in low amounts in plant proteins, especially in legumes, lentils, and nuts.



There are a couple of things I want you to notice. First, there's a lot of overlap among the foods listed. Because of that, the Venn diagram above helps you understand all the foods that are rich in all three of these amino acids. Second, you'll notice the list has a few plant-based options, but the bulk of the foods listed are from animals, in some form or another.

This is because animal sources are the highest in these particular amino acids. Now, it's not impossible to get them on a vegetarian diet, especially if you are a lacto-ovo vegetarian.

If you're a lacto-ovo vegetarian, you still have the option to take in some high-quality animal protein sources from animals in the form of dairy and eggs. It's not impossible to get these essential amino acids in a vegan diet, though your options will be limited, and you will need to eat more total protein and more total calories to reach your goals. You may want to consider supplementing your diet to prevent a deficiency.

My Recommendation: A Balanced Diet

Since our body needs ALL the macros the key is BALANCE. This 'balance' will change from one person to other and even for one person will change depending on your ever changing age and goals. It is better to work with a professional sports nutritionist for any exercise and fitness goals and with a professional dietician for addressing specific illness or health conditions.

However, as a general example, if we consider a 70kg person looking to loose 3-5 kg we will first look at secret #1 above to establish first their calorie budget to maintain the current weight. In this case the average daily budget will be 1,850KCal. A healthy weight loss has considered to be .5kg to 1kg per week while minimising any muscle loss. This can be achieved if the caloric 'deficit' is approx 200Kcal per day and we ensure the macro distribution is prioritising and daily intake of approx 1.5-2 grams of protein per body weight.

The next steps will be to calculate the macro profile to makeup the calorie budget understanding that each macronutrient has a different Kcal value: Proteins and Carbs have 4KCal per gram while Fats have 9KCal per gram.

You now have your building blocks. We know this works, so you can confidently put it into action. Remember the following, if nothing else:

1. 20-30g minimum of protein per meal.
2. Always select high quality food sources. Buy fresh vegetables, fruits, meats, dairy and eggs. Avoid ultra-processed foods in bags or boxes.
3. Vegetable based carb sources are a priority, with some starches thrown in occasionally, around workouts, especially if you are doing high intensity exercise.
4. Weighing your food. Do you have to do this forever? No, but you are training yourself to figure out exactly what you're eating. Learn what portion size is appropriate for you. The more you visualize your eating, the better you'll achieve your goal, and the quicker you can ditch the scale, so long as you remember what your plates typically look like. Sure, you'll deviate for a holiday or birthday, but that does not have to derail your overall consistency.

Let this guide serve as a template for simple everyday life.

Stronger. Healthier. Happier.

MOVE WELL. EAT WELL. THINK WELL.

WELLNESS · STRENGTH · PILATES



Set your intentions daily: What is your "why" for doing this? Are you sick of being a victim of every fad diet, do you want to thrive in a healthy body? Do you have an eating disorder that you don't have a handle on, are you sick, have poor recovery or have you watched your loved ones become demented? Really become invested in your reasons and convictions. Every day you remind and recommit to this purpose. The knowledge you will gain during the Stronger. Healthier. Happier. - 8 week challenge will be far more valuable than nutrition, you will learn how to commit for the long run to yourself.

