

Calories and Macronutrients

What is a calorie and why are they important?

Put simply, a calorie is a unit of energy and that energy is used to fuel our bodies in our everyday life. Calories are consumed through the food we eat and drink. How many calories each of us need is dependent on many factors but predominantly how tall, heavy and active we are.

A 6 foot 16 stone rugby player with a manual job is going to need more energy to fuel their body than a 5 foot, 7 stone inactive person would.

If we consume more calories than our body needs then we will gain weight. Our body will store the extra calories as fat so that it will have extra energy to use at a later time when needed.

If we consume less calories than we need then we will lose weight. Our body will use our stored energy (body fat) to fuel itself.

Our bodies constantly need fuel in order to live. The amount of calories we need to live is called our Basal Metabolic Rate (BMR) and this is simply the amount of calories we would burn in a single day if we were to sit around all day and do nothing.

We also burn calories living our day to day lives, things that require energy but you wouldn't class as exercise. This includes going to school or work, walking to the bus, doing jobs around the house, cleaning and washing etc. The more active our lives are the more calories we will burn. These calories make up a large portion of our daily requirements.

We also have the calories that we need for our planned exercise. This is what we normally think of when we think about burning calories and includes any form of planned exercise

What are macronutrients and why are they important?

If we look at calories as simply the energy that fuels our body. Then we can look at macronutrients as the components that make up the calories. They play a vital role in the body and its ability to function. Macronutrients are split into three main categories and the amount of them found in food varies depending on the type of food.

The 3 macronutrients are protein, carbohydrates and fats. If you look at the label on any food packaging you will see that they are measured in grams. The amount of macronutrients in an item of food will determine the calories of the food.

All three of the macronutrients play a very important role in our body and its ability to function correctly.

Protein

Protein has 4 calories for every one gram of protein. The role of protein is to build and repair. When you think of exercise and training you think of building muscle which is why protein is so important if you do a lot of training. Protein is also vitally important for the growth and repair of the body's normal functions, bones, hair, cells etc.

Carbohydrates

Carbohydrates also have 4 calories per gram. The main role of carbohydrates is to provide energy to the body. The body constantly requires energy to function whether that's in your normal daily life or during exercise. Another vitally important function of carbohydrates is to fuel our brain. The body breaks down carbs into a substance called glycogen and this is what is used to fuel our brains.

Fats

Fats contain 9 calories per gram. The main role of fat is to regulate the body's functions and hormones as well as acting as the body's natural insulation to keep us warm and protect our organs and cells. Fat can also be used by the body for energy.

How many calories should you be consuming?

The amount of calories each person needs is individual to their specific body and lifestyle so it is not possible to give a simple value. However you can work out your own recommended values using this equation.

$$\text{Men: BMR} = (10 \times \text{weight in kg}) + (6.25 \times \text{height in cm}) - (5 \times \text{age in years}) + 5$$

$$\text{Women: BMR} = (10 \times \text{weight in kg}) + (6.25 \times \text{height in cm}) - (5 \times \text{age in years}) - 161$$

Or for a more simple calculation you can use this sum.

$$\text{Men: BMR} = \text{Weight in lbs} \times 11$$

$$\text{Women: BMR} = \text{Weight in lbs} \times 10$$

The above equations will give you your basic metabolic rate (BMR) which is the amount of calories your body will burn per day while at rest.

To work out the amount of calories you will need per day you will need to multiply your BMR by an activity factor. This will give you your total daily energy expenditure (TDEE) – Remember to think about your day to day life and how active you are, not just the planned exercise.

$$\text{Little to no exercise} = \text{BMR} \times 1.2$$

$$\text{Light exercise (1-3 days per week)} = \text{BMR} \times 1.375$$

$$\text{Moderate exercise (3-5 days per week)} = \text{BMR} \times 1.55$$

$$\text{Heavy exercise} = \text{BMR} \times 1.725$$

$$\text{Very heavy exercise (twice per day, extra heavy workouts)} = \text{BMR} \times 1.9$$

If you don't want to do all the maths yourself there are many calorie calculators online that ask a few basic questions and then give you a calorie value. These are pretty accurate as well.

The easiest way to track and monitor your calorie consumption is by using a calorie counting app such as My Fitness Pal. This app will also calculate your calories for you after asking a brief questionnaire to find out about you and your lifestyle. You can then simply scan the barcodes of foods you eat or manually put in the number of calories and it will monitor them and let you know how many you have consumed and have remaining for the day.

How many of each macronutrient should I be eating?

When it comes to tracking macronutrients there is no real reason to track carbs and fat specifically unless you are on a strict sports performance diet. As long as you are meeting your calorie targets then you will be gaining or losing weight depending on your goal.

The only macronutrient I would recommend tracking is the amount of protein you eat. Aiming for 1.6-1.8 grams of protein per KG of bodyweight is a good goal to aim for. Protein is good for tracking for three main reasons;

1. If you are physically active and training then getting in plenty of protein will be important for muscle recovery and growth.
2. If you are on a diet to lose weight making sure you eat enough protein will help you to maintain your muscle mass so that you are not losing muscle as well as fat – Providing you are resistance training and working the muscles.
3. Protein has the highest satiety value (keeps you feeling fuller for longer) than any of the other macronutrients. So if you are on a diet, eating a plenty of protein will help you to feel more full and satisfied.

Do you need to track calories to make progress?

No you do not need to track your calories to meet your goal, it is simply a tool to help make it easier to do so.

If you don't want to track your calories you can simply increase (to gain weight) or decrease the amount of food that you currently eat, or try to eat healthier options. Combining this with your weight, how you feel and look or your performance in sport/gym will show you if you are making