



Understand Nutrition

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How do calories work?

Basal Metabolic Rate

BMR represents the amount of calories you need to eat every day to keep your body functioning at rest, when doing nothing (staying in bed all day long).

It does not include any physical activity or exercise.

The calculation of your BMR includes your age, gender, height and weight.

There are few BMR calculators online that will make the calculation for you:

<https://www.calculator.net/bmr-calculator.html>

Total Daily Energy Expenditure

Your TDEE is basically your BMR + the calories you burn everyday including any physical activity you may have like work or sport.

Calculating your TDEE will include indicators that represent your daily physical activity, from sedentary to extra active.

This will affect the amount of calories you will need everyday to fuel your body to perfection.

Again, you can find TDEE calculators online that will make it easier for you:

<https://www.calculator.net/tdee-calculator.html>



How to decide how much calories to eat

When it comes to the amount of calories you need it is important to precise that it all depends on your goal.

If you are satisfied by the physique you have at the moment, then you better eat the amount of calories calculated by your TDEE.

If you would like to lose some weight you have to implement a calories deficit, and if you want to bulk you will need to add extra calories to your meal every day.

It my opinion it is important to control the deficit or surplus you will implement in order not to create frustration and affect your long term results.

Implementing between 200 to 400 calories deficit/surplus to your everyday diet is a big difference enough to see results on a medium and long term.

It might take longer to see the effects of the changes in your diet but it is also probably a stronger foundation that will make you last longer and not create any food disorder.



What matters the most in terms of macro nutrients

So let's keep it simple.

Having enough protein everyday will help you keep your muscle mass and make your body work in a proper way.

In my opinion it is the first macro nutrient to worry about. Making sure to have enough protein per meal is a good way to start.

After that come both carbs and fat that are also important but probably impacting slightly less your general body functions as long as you keep their daily intake suitable.

Should you count your calories every day

Counting your calories forever is probably not conceivable, and it makes sense.

However, counting them for a short amount of time can be very beneficial.

We usually tend to use more or less the same ingredients to cook and create our meals everyday.

It then makes sense to know how many calories and protein are in 100g of chicken or pasta.

[Here is the list of the protein content of common foods in the diet.](#)

You can then have an idea about how many calories are in your plate and how many calories you are consuming in a day.

If you then repeat the same type of meal you are probably eating the same amount of calories and protein every day.

To make it easier, I highly recommend you to use an app that you can download right below. Or write your daily intake into your Food Journal.

[MyfitnessPal](#)

Should you cheat meal

Having a day every week where you get mad and eat everything that catches your eyes is probably not a good idea.

The frustration of having to wait until a precise day to 'enjoy' food is probably creating an eating disorder and triggering your binging.

It can also create a guilt feeling if you ever eat something that is 'unhealthy' a day you should not.

It is also not really sustainable on a long term basis and probably do not match a balanced social life.

Having unprocessed 'unhealthy' food every now and then whenever you would like to without abusing it is certainly a better way to keep everything balanced.

In conclusion

It is definitely a good idea to pay more attention to your calories intake especially if you are trying to lose or gain weight. Knowing what is fueling your body is always a good option to take.

When it comes to macro nutrients, emphasises your knowledge on protein and do not create any frustration.

Everything is about balance!

Eating healthy unprocessed food 80% of the time and having a regular physical activity is more than enough to give you the results you are expected on a long term basis.



Protein

What is a protein ?

The [Harvard School of Public Health](#) defines protein as following :

' Protein is found throughout the body—in muscle, bone, skin, hair, and virtually every other body part or tissue. It makes up the enzymes that power many chemical reactions and the hemoglobin that carries oxygen in your blood. At least 10,000 different proteins make you what you are and keep you that way.

Protein is made from twenty-plus basic building blocks called amino acids. Because we don't store amino acids, our bodies make them in two different ways: either from scratch, or by modifying others. Nine amino acids—histidine, isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan, and valine—known as the essential amino acids, must come from food. '

Ok so protein is composed of 20 amino acids ([molecules that combine to form protein](#)) working in a chain. Those chains are important parts of every structure in our bodies (from hair to bones). To make up a protein we need to get those amino acids. Some of them are produced by our bodies and some must be found in food because our bodies don't produce them. But is that possible ?



Can I find all the protein I need in food ?

To answer this question it is important to make the difference between essential amino acids and non essential amino acids that make up protein.

Out of the 20 amino acids that exist there are 9 essential amino acids (histidine, isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan, and valine). Essential meaning that they are not produced by our bodies and so need to be found in food.

And so there are 11 non essential amino acids produced by our bodies, which means they don't need to be consumed when eating.

There are 2 ways to get the essential amino acids you need.

You can eat incomplete sources of protein, which means consuming food that contains some of the 9 essential amino acids. By eating a large variety of incomplete sources of protein you can make up a complete source of protein.

Legumes (beans, lentils, peas), nuts, seeds, whole grains, vegetables are incomplete sources of protein.

A good knowledge of the composition of these ingredients will help you reach the 9 amino acids intake that your body needs.

Incomplete sources of protein are part of vegetarian or vegan diets for instance and represent a natural, efficient source of protein.

For example you can have food that contains histidine, isoleucine, leucine and lysine + food that contains methionine, phenylalanine, threonine, tryptophan, and valine and so have the all 9 amino acids you need to make up a protein.

Complete sources of protein, such as fish, poultry, eggs, beef, pork, dairy and whole source of soy (edamame, tofu) are a great alternative to get all of the 9 essential amino acids needed in an easier way, if your diet allows you to.

So then why do you see so many people having protein shakes or bars when it seems possible to get all the protein needed in natural food ?



Non natural sources of protein

There are many different reasons why people use non natural protein sources.

The first of them is convenience ([7 best types of protein powder](#)).

The Harvard School of Public Health specifies that 'The Recommended Dietary Allowance (RDA) for protein is a modest 0.8 grams of protein per kilogram of body weight' which sounds like a fair attainable amount. However this is the minimum that needs to be eaten everyday to remain healthy and not suffer any illness.

The optimal amount of protein needed is about 1.6 to 2.2g of protein per kg of bodyweight depending

on the study (for example a woman that weights 55kg would need about $55 * 1.8 = 99g$ of protein a day). Which makes it slightly more difficult to reach. For that reason, protein shakes or bars can be a good alternative ([make your own protein bars](#)).

Also, most of the non natural sources of protein are flavoured. People craving sugar who want to limit their daily intake may find the sweet flavours more enjoyable. Eating a huge amount of natural protein, such as chicken or plants might lead to boredom and the idea of having something sweet but still healthy can be a good treat and help people follow their diet.

However, attention must be paid to composition when you are about to choose a protein shake.

In fact The Harvard School of Public Health specifies that 'Available evidence indicates that it's the source of protein (or, the protein "package"), rather than the amount of protein, that likely makes a difference for our health.'

B vitamins, essential fatty acids, zinc and iron, vitamin E and fiber come along with protein. Some of the non natural sources of protein may not include them so special attention must be paid to ingredients when you are about to make your choice.



Protein, an essential intake

To be clear, protein must be part of your daily intake and the amount varies depending on your physical activity.

No less than 0.8g per kg of bodyweight and no more than 2.2g must be consumed. It can come from complete (chicken, eggs, poultry) or incomplete sources of protein (nuts, seeds, whole grains) and as much as possible from a natural source of protein.

Non natural sources of protein are good to complete and help you reach your daily intake but can not substitute natural sources.

Don't forget to pay attention to micro nutrients that come along with protein and keep a large variety of protein intake.

Carbohydrates

What are carbohydrates?

Carbohydrates, or carbs for short, are plant foods made up of sugar molecules called saccharides. Their structures dictates how they are categorised and their function.

A carbohydrate has 4 calories per gram and is mostly used as energy for the brain and for high intensity activities like sprinting, or weight lifting.



How do carbohydrates work?

All types of carbohydrates are broken down by digestive enzymes (pancreatic and salivary amylase) into glucose. This glucose enters the bloodstream and stimulates the pancreas to release insulin.

It locks cells and allows glucose to enter various tissues. Glucose is then stored for later use in the form of glycogen for fuel, or converted into fat (if there is an overconsumption of carbs).

Little glucose remains in the blood to fuel the brain.

Glycogen is locked into the liver to fuel the brain and and stored in muscles to provide energy for muscle contractions.

Simple carbs or sugar

Sugar often has a bad reputation. Caution must be paid to its consumption, however mainly to the type of sugar eaten.

Simple carbs come in 5 forms : monosaccharide (single saccharide molecule), glucose (dextrose), fructose (fruit sugar) galactose, or disaccharide (pairs of molecules joined together), in the form of sucrose, lactose and maltose.

Simple healthy carbohydrates are found in foods such as fruits, vegetables and milk. Whereas less healthy simple carbohydrates can be found in sweets or cakes.

The composition of simple carbs give them a high glycemic index ([what is the glycemic index](#)) which means that it is quickly broken down into glucose and used by the body. That makes them the perfect snack if you need fast energy to perform a physical activity.

However it is important to note that simple carbs are lacking in vitamins, minerals and fibre, when compared to complex carbs, and so are a less effective source of energy.



Complex carbs or starches

Complex carbs are made up of multiple chains of saccharide molecules called polysaccharides (starches).

They are found in foods such as bread, rice and pasta.

Their composition and low glycemic index, make them slowly assimilated by the body to be used as fuel, making them perfect for breakfast as they supply us with a gradual supply of energy, which can last all day long.

They are also ideal for supplying gradual energy to support long physical activities such as walks or long runs.



Fibre

Fibre is also a form of carbohydrate. Fibre is a Non Starch Polysaccharides or 'NSP' and it contains 0 calories per gram.

In fact, the human digestive system lacks the enzymes to break down fibre, making it calorie-free, which means that they do not supply any energy to the human body.

Fibre can be soluble, like the soft fleshy part of fruits, which help soak up liquid in the digestive track. It helps absorb bile acids, cholesterol and fat.

Fibre can also be insoluble, such as the skin of vegetables and fruits. These insoluble fibres have a scrubbing function for the digestive system.

The RDA recommend that we consume up to 35g of both soluble and insoluble fibre per day. Consuming this level of fibre helps lower cholesterol and control blood sugar levels. A good intake of fibre also normalizes bowel movements and helps maintain our gut health.



Refined and unrefined carbs

Carbohydrates can be made in 2 different ways:

Refined carbs are the more processed kind of carb, which means they are largely stripped of much of their nutritional value.

They are found in the form of white bread or pasta and sugary sweets.

Unrefined carbs, on the other hand, are less processed and so have more nutritional value, as they are rich in vitamins, minerals and fibre.

They can be found in brown rice and pasta, wholemeal bread and fruits.

This is an important information to consider, as the energy contained in carbs can't be released into the body without vitamins and minerals (especially vitamin B) being present. Overconsumption of refined carbs is therefore not optimal, as they are mostly deprived of these vitamins and minerals.



In conclusion

Carbohydrates are an essential source of energy for both our physical activities and brain function.

Low and high carb diets can be effective and meaningful depending on your level of activity and needs.

Simple healthy carbs are more suitable for when we need fast energy, and complex healthy carbs should be eaten to supply more lengthy physical needs.

Fibre complete the consumption of simple and complex carbs and the vitamins and minerals that compound carbs are essential to release the energy they contain into the human body and maximise its function.



Fat

Saturated Fat

Saturated Fat (SF) is one of the 3 natural sources of fat. It is mainly present in coconut oil, butter, cream, cheese and whole milk.

There are 9 calories in 1g of SF, like for any other type of fat (monounsaturated and polyunsaturated fat). But it has specific functions.

SF is a principal source of energy during aerobic activity (which is defined by the [American College of Sports Medicine](#) as 'any activity that uses large muscle groups, can be maintained continuously and is rhythmic in nature').

Which means that whenever you perform swimming, walking or running, from low to moderate intensity, SF stored in your body is used as fuel.

SF also plays an important role in the protection of vital organs. And so it does in transport of fat-soluble vitamins that will have an impact in protein utilisation.

If consumed in too large amounts SF have a high propensity to be converted into body fat, which gives it its bad reputation.

However, SF is considered as a vital nutrient.



Fat should be present in any healthy diet, and its composition and resistance to high temperatures make it perfect for cooking.

Monounsaturated Fat

Monounsaturated Fat (MF), known as the first unsaturated fat, is considered as 'good fat'. You can find it in olive oil, chicken, beef, seeds, nuts, avocado and fatty fish such as salmon.

Its different shape make its functions different too. MF is used by the human body to protect the heart. It helps maintaining 'good' [HDL \(High-Density Lipoprotein\)](#) cholesterol and reduce 'bad' [LDL \(Low-Density Lipoprotein\)](#) cholesterol in blood.

MF also has a key role in muscle movement and helps inhibit inflammation.

Its composition makes it slightly reactive to heat and caution must be paid to not overheat it during cooking, which could make it unhealthy.

The Institute of Medicine recommends using them as much as possible, along with polyunsaturated fats, to replace saturated and trans fats.



Polyunsaturated Fat

Polyunsaturated Fat (PF), known as the second unsaturated fat, is composed of both Omega 3 and Omega 6 (the numbers referring to the distance between the beginning of the carbon chain and the first double bond).

You can find Omega 3 in sardines, salmon and mackerel and Omega 6 in rapeseed oil, corn, sunflower and some nuts. Most people get enough omega 6 in their diet, but it's recommended to have more omega 3.

PF is not produced by the body despite its necessity for the body good function.

PF helps building cell membranes and protecting nerves. It is needed for blood clotting, muscle movement and inflammation.



Trans fat

Trans Fat (TF) is made by heating liquid vegetable oils in the presence of hydrogen gas and a catalyst, a process called hydrogenation.

It can be found in cakes, cookies, pies, margarine and in most take away or ready to eat meals found in supermarkets.

Consumed in relatively small amounts, it does not present any real problems for your health. However, many modern food preparation methods result in an abundance of trans fats being formed and consumed.

TF is the worst type of fat for the heart, blood vessels, and rest of the body.

It raises 'bad' LDL and lowers 'good' HDL, creates inflammation, contributes to insulin resistance.

Its composition does not make it essential for human body and it is recommended to avoid it as much as possible.



Fat, an essential macro nutrient

Many of the problems associated with different types of fat are due to the fact that they make you fat.

Fat itself is not bad. It is even important for good body function.

As previously seen fat has innumerate benefits for the human body.

However caution must be paid to the amount of different types of fat consumed. Over eating fat can increase body fat and also impairs the vital body functions.

UK government recommends that 'men should not eat more than 30g of saturated fat a day and women

should not eat more than 20g'.

In terms of Trans Fat 'adults should not have more than about 5g a day'.

Also the [NHS](#) website precises that 'people in the UK tend to eat a lot more saturated fats than trans fats. This means that when you're looking at the amount of fat in your diet, it's more important to focus on reducing the amount of saturated fats.'

How much fat should you consume

The UK government via the NHS website delivers a guideline regarding the amount of fat intake that is healthy or not.

It says that in terms of Total Fat, 17.5g per 100g is considered as high fat.

Low fat being 3g or less per 100g and 1.5g per 100ml for liquids.

Approximately Saturated Fat 5g per 100g is considered as high fat.

1.5g per 100g or 0.75g per 100ml being low fat.

Precious information that breaks cliches about fat and can be useful when it is time to pick up your next take away food or organise your diet.