- Nutrition



30 DAYS TO Increase Your Protein

What are macronutrients?

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To truly harness the power of protein, we need to understand how the other two macronutrients function and how to strike the right balance for our bodies

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Macronutrients are nutrients that provide us with energy that enables our bodies to function optimally, and supports its structure and systems. The three main macronutrients in our diet are carbohydrates, protein and fat. They each add to your caloric total – 4 kcals per gram of protein and carbohydrate and 9 calories per gram of fat.

No single macronutrient is more important than the others, we need a balance of the three for the body to perform efficiently. A healthy diet should not exclude or eliminate any macronutrient. Each one serves a different metabolic function within the body. Carbohydrates and fat are predominantly used for energy while protein is used to build muscle and hormones.

While there is no consensus among scientists and health professionals about the exact optimal breakdown of a healthy diet, current recommendations from the Scientific Advisory Commission on Nutrition (SACN) are that the UK average population make up 50 per cent of their dietary energy from carbohydrates. While there is no suggestion from SACN on protein intake, it is recommended that up to 35 per cent of total dietary calories are from fat (no more than 10 per cent from saturated fat). However, getting an actual calorie or grams breakdown of each macronutrient is specific to each individual.

PROTEIN

A brief recap on proteins. Proteins are made up of chains of amino acids, known as chemical 'building blocks'. Our body uses these amino acids for a number of essential functions such as brain development, production of hormones, bone health, muscle growth and repair.

The human body needs 22 amino acids to function optimally, including nine 'essential' amino acids that can't be made by the body and therefore need to be consumed as part of our diet. Animal derived proteins contain all of these essential amino acids, while only a few plant-based sources contain all nine. Combining complementary plant source proteins like rice and beans enables you to get enough of each essential amino acid to be considered a complete protein.

The 'recommended daily allowance' (RDA) for the general population is 0.75-0.8g protein per kg bodyweight, but those who exercise regularly have higher requirements.

Unlike carbohydrates and fat, protein is not usually used for energy in the body. Therefore alongside adequate protein intake to support bodily functions, we need to ensure we are eating enough carbohydrates and fat to help build and preserve lean muscle mass.

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CARBOHYDRATES

Carbohydrates are protein-sparing, meaning that if we eat enough carbohydrates it prevents the body from burning protein from dietary or muscular sources for energy. Therefore, eating enough carbohydrates as part of a balanced diet allows our dietary protein to be used for other important processes within the body, including muscle protein synthesis.

Carbohydrates are the body's preferred and main source of energy. Carbohydrates include starches – such as wheat, rice, barley, oats and potatoes; fibre – such as fruits, vegetables and legumes; and sugars.

The body breaks down carbohydrates into simple sugar molecules that enter the bloodstream and fuel your cells. Glucose is then converted into energy in the form of adenosine triphosphate (ATP), which powers a wide range of bodily functions, including protein synthesis. Glucose that isn't used straight away gets stored in our muscles and liver as glycogen to use as energy when needed, for example during exercise.

As well as providing energy, carbohydrates can help build and preserve lean muscle mass.

According to the NHS Eatwell plate, we should be getting about a third of our diet made up of fruits and vegetables, about a third from starchy carbohydrates, while the other third comes from protein and dairy or dairy alternatives.

There are two types of carbohydrates; simple and complex. These carbohydrates are broken down at different rates by the body. Sugar is a simple carbohydrate and is broken down more quickly than starchy carbohydrates and fibres. Sugar is found naturally in fruit, milk or added to food and drinks such as baked goods, breakfast cereals and sweetened drinks.

Complex carbohydrates, including wholegrains, beans, fruits and veggies have more nutrients and fibre than simple carbohydrates. They take longer for your body to digest and absorb, which can help you feel satiated.

For a healthy, balanced diet, we want to be opting for most of our carbohydrates to be coming from (or dietary sources with) a combination of complex and simple carbs, such as fruit, which contains fructose, a simple carbohydrate. Carbohydrates that are found naturally in plants are known as dietary fibre that reduces the risk of disease, helps keep our digestive system healthy and can help prevent constipation. These are found in wholegrains, nuts, seeds, pulses, fruit and vegetables. It's recommended that adults consume 30g of dietary fibre per day, although most adults in the UK fall short of this.

If we are looking at a rough guide, the NHS recommends that the average man needs 2,500kcals per day while the average woman requires 2,000kcals per day (but bear in mind that this does not take weight, height or activity level into account). If someone was consuming 50 per cent of their dietary intake from carbohydrates this would be about 1,250kcals or 312g carbs for a male or 1,000kcals or 250g carbs for a female. When we look at this as a carb:protein ratio, assuming that 30-35 per cent of dietary calories are from fat, then it would be a 5:2 ratio of carbs to protein (or around 100g protein for women or 125g protein for men).

FATS

As well as providing a dietary energy source alongside carbohydrates, fats play a key role in supporting protein function in a number of ways including building cell membranes, which regulate what enters and exits the cells and is essential for protein function. Fats help proteins maintain both their shape and function, as well as participating in the transportation of proteins within the body.

Fats provide omega-3 and omega-6 essential fatty acids, key for keeping our nervous system and brain healthy, and are required for protein synthesis and immune responses. Additionally, fats help the body absorb fat-soluble vitamins (A, D, E and K).

Lipoproteins are particles made up of protein and fat that carry cholesterol through your bloodstream to your cells. These are made up of 'good' cholesterol (LDL – low-density lipoproteins) and 'bad' cholesterol (HDL – high-density lipoproteins).

There are two main types of fat: saturated and unsaturated fats. Many foods contain both, but they are classed by whichever is present in the highest proportion.

Saturated fats are mainly found in animal products, such as meat, butter and cheese, as well as products made with these, such as pastries and cakes. There are also some plant-based saturated fats, including cocoa butter, coconut oil and palm oil.

Unsaturated fats are most commonly found in plant sources like



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avocado, olives, nuts and seeds, and are split into polyunsaturated, such as corn oils, sesame, soy, and monounsaturated, such as olive and rapeseed oils.

Omega-6 and omega-3 fatty acids are polyunsaturated fats that can be made by the body, but are also a vital part of our diet. Current guidelines are to include two portions of fish per week into your diet, one of which should be oily fish. Plant sources of omega 3 and 6 include walnuts and leafy vegetables.

Trans fats are mostly industrially manufactured and designed to prolong the shelf life of products such as biscuits, cakes, margarine and fast food. UK food manufacturers are being encouraged to reduce the amount of trans fat added to food due to their associated negative health risks. Current guidance from the World Health Organisation is for us to consume less than 1 per cent of our total caloric intake from trans fats.

Ideally, most of your fat intake would be from unsaturated fats – look for food labels on products with green or orange reference to fat content.

A higher protein diet would have different macronutrient breakdown, starting with 25-30 per cent protein, 40-45 per cent carbohydrates and up to 30 per cent fat. This should work out about 1.4-1.5g per kg bodyweight protein, which is in line with recommendations for those with increased exercise levels and athletic performance goals.



TOP MACRONUTRIENT MYTHS

5 macro myths & mistakes

"Low fat is the healthier option."

Lower fat might sound healthier, and often these products do have fewer calories, but low-fat products may also contain higher sugar and sodium content to help replace the flavour that fat gives. It may also keep you less satiated than a full-fat option, leading you to consume more calories.



"Carbs cause weight gain."

Low-carb diets like Atkins were all the rage a few years ago, and yes, some people saw success by following these, but any drop in calories and processed foods would see the same. Carbohydrates are a vital food group providing essential nutrients, fibre and energy for the body.

"Unrefined sugar is healthier."

Whether you're using honey, maple syrup, coconut sugar or pure white cane sugar, sugar is sugar. Although unrefined sugars do tend to have higher nutrient values with vitamins and minerals not found in refined versions, whichever form you use contributes to your daily sugar intake.



"Protein is more important than carbohydrates to promote weight loss/muscle gain."

While protein intake is crucial to grow and repair muscle, if this is consumed at the expense of carbohydrate, then dietary protein will not be available to utilise for muscle protein synthesis. Protein needs to be consumed alongside carbohydrate (and fat) for optimal health, as well as both weight loss and athletic goals.

"Gluten free carbs are better for you."

Unless you are coeliac or have a gluten intolerance there is no need to choose gluten-free options. Gluten is the protein found in wheat, rye and barley and contains essential B vitamins and fibre. Often, when removing gluten, manufacturers will replace it with extra salt, sugar or refined starches to improve texture and flavour, making these sometimes less nutritious than their gluten containing counterparts. If you are gluten-free, then choosing naturally gluten-free products and carefully reading food labels can help you make the best nutritional choice.



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