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Carbohydrates

In recent years, carbohydrates have been cast as the villain in the health/diet arena. But in fact, they are a key player in a healthy balanced diet and glucose, their main building block, is our bodies' preferred energy source. To enable absorption, carbohydrates are broken down into the building blocks of monosaccharides.

Sugars

When 2 monosaccharides are joined together they form a disaccharide eg sucrose (sugar) which comprises one glucose and one fructose building block. These are broken down easily in the body, quickly releasing sugar into the bloodstream.

Starches

More than 2 monosaccharides joined together are called polysaccharides. Digestible polysaccharides are known as starches.

The longer and more complex the polysaccharide chain, the longer it takes for your body to digest and release the energy. Wholefood sources are full of these slow, energy-releasing complex carbohydrates and this is what we want in our diet.

Refined grains such as white flour have had all the complex starches removed leaving only simple, easily digested polysaccharides which are digested and absorbed almost as quickly as sugar.

Fibre is carbohydrate comprising complex, indigestible polysaccharide chains and is essential for health. It prevents constipation, reduces risk of haemorrhoids, lowers colon cancer risk, lessens obesity and the risk of heart disease. There are 2 types of fibre:-

Soluble fibre: Oat bran, barley, nuts, seeds, beans, peas, lentils, some fruit and veg feed the beneficial bacteria in your gut improving gut health.

Insoluble fibre: Wheat bran, vegetables and whole grains help move waste smoothly through your digestive system ie it helps you go to the loo which is a good thing.

You need about 30g of fibre per day.

So are carbs bad? No, complex carbohydrates are good. It is refined carbohydrates that are bad - these are sugars and refined grains to be found in pasta, white bread, cookies, cakes,



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fizzy drinks, cordials/squashes, packaged and processed food etc. Below is what you must look out for on food labels and reduce to a minimum.

Sugars - such as white table sugar (sucrose), brown sugar, fructose, corn syrup, high fructose corn syrup, maltose, agave syrup, golden syrup, treacle and other sugar analogues. Even “natural” refined sugars like maple syrup, agave nectar and honey should only be used in small amounts.

Refined Grains - Whole grains milled and stripped of the nutritious germ and bran to leave only simple starches. The most common is white wheat flour. But they include white rice, rice flour and cornflour.

Potato Starch should also get a mention as it is a common substitute in wheat free products.

Why are these refined foods bad? Because they are stripped of nutrients (fortification does not make up for the loss of nutrients during milling), contain no fibre with all its important benefits and rapidly spike your blood sugar. If they make up a large part of your diet, not only can you quickly gain weight but consistent rapid spiking of your blood sugar puts pressure on your glucose regulation system. This can lead to insulin resistance and ultimately, the system may crumple under the strain and lead to diabetes.

So, we need complex carbohydrates such as wholewheat bread, butternut squash, pulses, brown rice, oats, potatoes, sweet potatoes, vegetables etc.

Supporters of the ketogenic diet will advocate that we don't need carbohydrates at all and that the body can adapt to get all the energy it needs from fat. Whilst this may be true, the question to ask is, is it ideal?

The body evolved to burn glucose as a primary source of energy, it is what the brain uses for energy, with fat as a secondary source. But neither one exclusively. It can switch easily between the two depending on your last meal and activity. And this switching from one to the other strengthens the metabolism.

Also, whilst you can get all the essential nutrients and energy from protein and fat, they don't provide all the energy and non-essential raw materials that your body needs and this comes from complex carbohydrates. In fact, if you cut out grains you could be missing out B vitamins, folate, vitamin E, zinc and magnesium. Fruit and starchy vegetables contain many vitamins and minerals including phytonutrients that help prevent disease in humans.

Daily energy intake from carbohydrates should range between from 35% to about 50% depending on how much protein and fat you are eating, activity level etc.

Alcohol – Sorry, but I have to mention it. Essentially, alcoholic drinks are ethanol and water and provide only energy ie ‘empty calories.’ And you will need to take account of that as part of your daily carbs. Daily recommended intake is less than 5% of your carb intake per day. Whether it is good or bad for you I will address in a separate article as there are arguments both for and against and dosage is of key importance.



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However, human society throughout the ages has included alcohol in its traditions: – celebrations, mourning, social gatherings, religion etc. If you enjoy alcohol and are willing to accept a small health risk, then pour yourself a glass – but just one, OK?

References

<https://www.nhs.uk/live-well/healthy-weight/why-we-need-to-eat-carbs/>

<https://www.movementandnutrition.co.uk/what-are-macronutrients/>

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