



EATING FOR SUSTAINABLE ENERGY

Every part of your body needs energy to function. Maintaining steady energy levels throughout the day makes it easier to focus and be productive. Achieving this sustainable energy requires eating the right foods at the right times in order to avoid energy slumps which have you reaching for unhealthy snacks and the caffeine fix.

How does your body manage food to produce energy?

Starchy foods and sugar are carbohydrates which are broken down into blood sugar or glucose. This is the fuel our bodies need to sustain life.

After digestion, starches are converted into simple sugars for energy. Glucose is absorbed and released into the bloodstream where it can be used immediately for energy or stored for later use.

Excess glucose is converted and stored in the liver and muscles as glycogen. The amount of storage space in both the liver and muscles is limited and any excess glucose above this capacity will be converted to fat and stored as a future energy source.

Insulin, a hormone manufactured in special cells in the pancreas, regulates the level of glucose in the blood and its use and storage in the body. Without insulin, sugar levels would remain high. A high blood sugar level over long periods of time causes a number of health problems and very high levels can be fatal. If insulin isn't produced or your body doesn't use it correctly, you develop diabetes mellitus.



Understanding carbohydrates

Carbohydrates, a food group banned on some modern diets, are the main 'culprits' in causing the so called 'brain drain' or mid-morning or afternoon slump. Not all carbs are equal or evil though. There are three main types of carbohydrates – simple, complex and fibre. When digested, both simple and complex carbohydrates are broken down into glucose energy.

- **Simple carbohydrates - sugars**
Simple sugars, made up of only one or two sugar molecules, are found naturally in sugar cane, honey, fruit and milk and are added in large quantities to refined foods like cereals and sweets. These foods are digested and absorbed quickly, causing a faster rise in blood sugar levels.
- **Complex carbohydrates – starches**
Starches contain longer, more complex chains of sugar molecules. Whole grains, beans and peas are good examples of complex carbs. The digestion of complex carbohydrates takes longer than that of simple sugars and blood sugar levels rise more slowly. Refined grains like white pasta, rice and flour undergo processing which make them more like simple sugars, causing a faster

sugar rise. Whole grains contain good vitamins and minerals and are a much healthier option than refined grains.

- **Fibre**
Fibre is also part of the complex carbohydrate group – an indigestible part of plants. The correct amount of dietary fibre is important for a healthy digestive system. Fibre keeps your bowel movements regular. Foods that are high in fibre also swell, causing you to feel fuller for longer.



Sugar rush and crash

If you eat a complex carbohydrate, your blood sugar rises more slowly and you'll feel energised over a longer period of time. Simple carbohydrates on the other hand, are digested quickly, causing a fast rise in blood sugar. When levels rise too quickly – called a sugar rush - they also drop quickly – called a sugar crash.

The simple carbohydrate is digested and glucose energy is quickly available for use by the body. At this point, the body reacts to the rising sugar levels, and insulin is released to move glucose to the cells where it is required. The slump or sugar crash occurs as glucose is quickly removed from the bloodstream causing lethargy,

fatigue and hunger. It's at this point where many dieters fail – the feeling of hunger often makes one reach for the wrong types of foods for a quick pick-me-up..

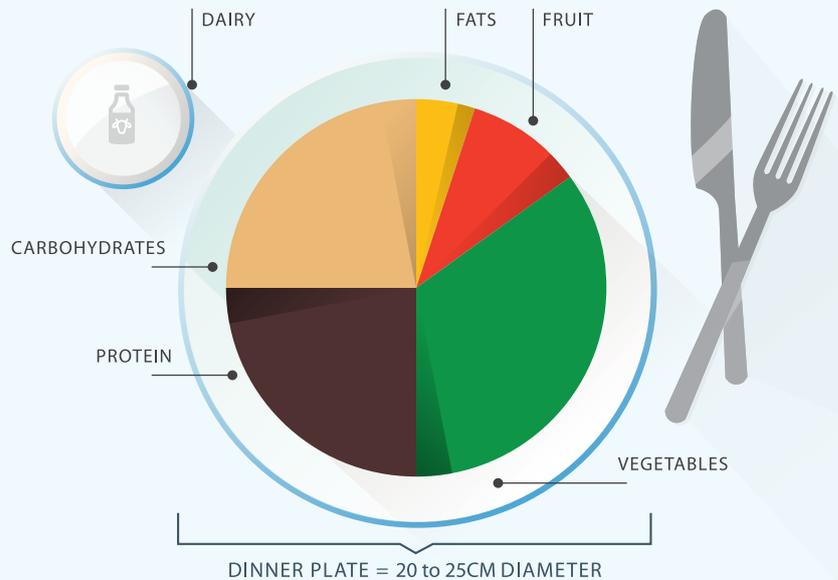


Glycaemic index

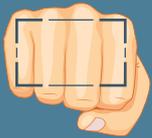
Scientists developed a way to grade foods according to their effect on the levels of sugar in the blood. This is known as the glycaemic index (GI) of carbohydrates. Pure glucose is rated as 100 on the scale to 100. Foods with a low GI number (lower than 55) keep blood sugar levels more stable, preventing a sharp rise and quick dip.

Low GI foods are also good for your heart and help to improve blood cholesterol levels. Remember that GI isn't a gauge of how unhealthy or healthy a food is, but rather its effect on your blood sugar level. Low GI foods aren't always a healthy option and not all high GI foods must be avoided.

Healthy plate guide



Portion guide

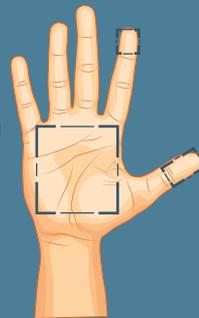


- Limit pasta servings to 1/2 a cup which is the size of the front of your fist



- A clenched fist is roughly one cup or a double-serving of ice cream

Recommended serving size of meat is 85 grams or the size of your palm



- Look at your fingertip, this is about a teaspoon worth of butter you need for your toast
- Your thumb, from knuckle to tip is about the size of a tablespoon. Double it for a single serving of peanut butter

Eating for energy

To sustain your energy levels throughout the day, choose the right food combinations. Aim to eat three healthy meals and select healthy snacks in between. Proteins and healthy fats have little impact on blood sugar and should be combined with complex carbohydrates for a balanced diet.



Breakfast

This really is the most important meal of the day – providing sustained energy for the morning period. One study found that people who ate breakfast were five times less likely to be obese than those who skipped it.

- ✔ bran cereal
- ✔ oats or muesli
- ✔ scrambled, boiled or poached egg with a slice of brown toast
- ✔ omelette with mushrooms and a little cheese
- ✔ whole wheat pancakes with honey
- ✔ low-fat yoghurt and a piece of fruit
- ✘ sugary cereal



Lunch

Your lunch time meal should consist of a combination of a complex carbohydrate (low GI) and protein. This combination will sustain energy levels through the afternoon. At work, opt for a lighter meal for ease of digestion.

- ✔ lean protein – grilled fish, chicken or turkey
- ✔ wholegrain bread or low GI crackers
- ✔ salad with lemon/vinegar dressing
- ✔ protein shake
- ✔ water, juice or tea
- ✘ sugary cold drink
- ✘ refined white bread, pasta or rice
- ✘ creamy salad dressings
- ✘ fatty or greasy foods



Dinner

- Follow the 'plate guide' above when selecting foods and portion sizes for all meals. Half the plate should be vegetables and fruits, with half for protein and half for a low GI carbohydrate. Try to eat at least two hours before you go to bed.
- ✔ portion of protein – about the size of your palm
- ✔ brown rice or pasta or baked potato
- ✔ plenty of vegetables
- ✘ avoid snacks after dinner



Snacks

A mid-morning and afternoon slump can be avoided with the right snack choices. If you are already feeling slightly tired or hungry, the right snack can boost your energy levels.

- ✔ low GI cracker with fish, chicken or biltong
- ✔ whole wheat cracker with a small piece of cheese
- ✔ one slice of brown bread with avocado
- ✔ tub of fat-free yogurt
- ✔ cucumber and carrot sticks
- ✔ handful of raw nuts, legumes or seeds
- ✔ some biltong
- ✔ a low GI fruit
- ✔ a few blocks of dark chocolate
- ✘ crisps
- ✘ biscuits
- ✘ confectionery
- ✘ chocolate
- ✘ pastries

References

1. <http://www.healthline.com> | 2. <http://www.webmd.com> | 3. <http://www.realsimple.com> | 4. <http://www.eatright.org> | 5. <http://www.livestrong.com>