

## NUTRITION and WEIGHT MANAGEMENT

### THE MACRONUTRIENTS: BUT WHAT ARE CARBS, PROTEIN, FAT and WHAT DO THEY DO FOR US?

#### CARBOHYDRATES



**What they are** - Carbs form the backbone of our diet. Fruit, Vegetables and starchy carbs such as potatoes, rice and bread are all carbohydrate –rich foods. Carbohydrates are usually classified as either simple (i.e. Sugars) or complex (Potatoes and Rice), according to their chemical structure. More recently, Carbs are also classified according to their Glycaemic index (G.I.) as well. More later!

**Why we need them- The bodies main source of ENERGY.** Carbohydrate-rich foods supply the body with its primary source of fuel – GLUCOSE, which is stored in the body as GLYCOGEN. Glucose is a type of sugar that is easily transported by the body. Glycogen is stored in the muscles and is the main fuel for the brain and nervous system. Carbs must be present for us to burn body fat, but excess carbs will be converted and stored as body fat in our fat cells.

**How much do we need?** Some health institutions and nutritionists recommend between 50% and 65% of our calorie intake. More recently guidelines are based on body weight per kilogram: 4-5g of Carbohydrate per kg of body weight for healthy, active people.

#### PROTEIN



**What they are** - Proteins are made up of chains of amino acids of which there are hundreds in nature, but only 23 are important to humans and 8 are 'essential', meaning we cannot manufacture them in the body and therefore we need to absorb these from the foods we eat. Proteins can be divided in to 2 groups. Dairy, which include milk, cheese, yoghurt, and Non Dairy sources, which include, meat, fish, eggs and pulses. The important role that protein plays means that it is much harder for the body to store excess protein as body fat.

**Why we need them-** Proteins are essential for muscle tissue repair, maintenance and growth, making up part of every cell in the body. A regular supply of protein is required for growth processes.

**How much do we need?** The Food Standards agency recommends that we obtain 15% of our energy from protein. A higher intake maybe necessary for those looking to restrict calorie intake as Protein

makes us feel fuller, so we are less likely to overeat. Another guideline is by grams per kg bodyweight.

0.75g protein per kg bodyweight so if you are 70kg this would be 52.5g of protein per day, balanced with the appropriate amount of carbs and fats.

For athletes and those performing regular intense exercise, then 1.2 -1.4 g protein per kg bodyweight is recommended.

For vegetarians and vegans it can be harder to obtain the desired amounts of protein in the diet as you will obtain most of your protein intake from plant based proteins such as legumes, nuts and seeds.

## FATS



**What they are-** The fats in our food is the most concentrated source of energy with 9 calories per gram rather than 4 calories per gram for Carbs and Protein. Foods such as Oils, nuts, cheese, butter, avocado pears and oily fish are sources of fat.

**Why we need them-** Good fats are essential for good health. Fat helps us to transport important antioxidants and to produce key hormones that regulate many body processes. Certain foods supply the fat soluble vitamins, A,D,E and K. Without fat in the diet our bodies couldn't process these vitamins. EATING FAT DOES NOT MAKE US FAT! Eating too many calories does!

There are 3 main sub groups, divided according to their chemical structure. Saturated, Polyunsaturated and monounsaturated:

**Saturated** - The least healthy and no useful function in the body. Eating too much saturated fat is associated with an increased risk of heart disease. When we eat saturated fat, the easiest thing for the body to do is transport it to the fat cells and dump it, causing the cells to swell i.e. we get fatter! Saturated fat includes fat on meat, butter, cheese.

**Polyunsaturated** – These essential fats help us to burn energy from other foods such as protein and carbs. These are further divided into 2 groups;

**OMEGA 3 essential fats** - Oily fish such as salmon, herring, sardines, trout, mackerel, flaxseed and pumpkin seeds. These help to prevent thickening of the arteries and lower blood pressure. Three servings of oily fish per week helps to hit our quota.

**OMEGA 6 essential fats**- Pumpkin seeds, Sunflower seeds, sesame and corn oil. They help to prevent blood clots, lower blood pressure, maintain water balance and stabilise blood sugar levels.

**Trans fats/ Hydrogenated Fats** – These often start as Polyunsaturated fats but high temperature processing changes their chemical structure making them less stable and damaged. Consumption is

associated with increased risk of cancers and heart disease. They are found in margarine and processed foods such as pastries, biscuits and many processed foods. AVOID!

**Monounsaturated** – Liquid at room temperature, i.e. Olive oil and Rapeseed oil and regarded as the most healthy of fats. Also included in this group are avocado pears, nuts and seeds.

**How much do we need? The food standards agency recommends that approx. 25-30% of our energy should come from fats with no more than 10% from saturated fats. AVOID Trans or hydrogenated fats MOST OF THE TIME.**

