Food Preparation and Nutrition: Diet related issues

Year 10

Keywords

Macronutrients: A type of food (e.g. fat, protein, carbohydrate) required in large amounts in the diet.

Carbohydrates: Macronutrients required by all animals; made in plants by the process of photosynthesis.

Protein: A macronutrient that is essential to building muscle mass.

Amino Acid: The building blocks of proteins

Essential amino acids: 8 of the different amino acids found in proteins from plants and animals that have to be provided by the diet

Protein complementation: Combining different protein types at the same meal to ensure all EAAs are ingested

Fat: Macronutrient which supplies the body with energy.

Carbohydrates

All types of carbohydrate are compounds of carbon, hydrogen and oxygen.

They can be divided into three main groups according to the size of the molecule.

These three types are:

- •monosaccharides (e.g., glucose);
- •disaccharides (e.g., lactose);
- •polysaccharide (e.g., sucrose).

The two types main of carbohydrate that provide dietary energy are starch and sugars.

Starchy carbohydrate is an important source of energy.

Starchy foods - we should be choosing wholegrain versions of starchy foods where possible.

Total carbohydrate - around 50% of daily food energy.

Free sugars include all sugars added to foods plus sugars naturally present in honey, syrups and unsweetened fruit juice (<5% daily food energy).

Protein

Made up of building blocks called amino acids.

There are 20 amino acids found in protein.

Eight amino acids must be provided by the diet (called essential amino acids).

The essential amino acids (EAAs) are isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan and valine.

In young children, additional amino acids, e.g., histidine and tyrosine, are sometimes considered to be essential (or 'conditionally essential') because they may be unable to make enough to meet their needs.

0.75g/kg bodyweight/day in adults. Sources:

Animal sources: meat; poultry; fish; eggs; milk; dairy food.

Plant sources: soya; nuts; seeds; pulses, e.g., beans, lentils; mycoprotein.

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Fat

Sources of fat include:

- •saturated fat;
- monounsaturated fat;
- polyunsaturated fat.

Fats can be saturated, when they have no double bonds, monounsaturated, when they have one double bond, or polyunsaturated, when they have more than one double bond.

<35% energy, Saturated fat <11% energy. A high saturated fat intake is linked with high blood cholesterol levels.

Saturated fat: fatty cuts of meat; skin of poultry; butter; hard cheese; biscuits, cakes and pastries; chocolate.

Monounsaturated fat: edible oils especially olive oil; avocados; nuts.

Polyunsaturated fatty acids: edible oils especially sunflower oil; seeds; margarine; spreadable fats made from vegetable oils and oily fish.

Dietary fibre is also a type of carbohydrate. Dietary fibre helps reduce the risk of heart Fibre is a term used for plant-based carbohydrates that are not digested in the small intestine (30g/day for adults). Dietary fibre helps disease, diabetes and some cancers Food examples include wholegrain cereals and cereal products; oats; beans; lentils; fruit; vegetables; nuts; and seeds. Dietary fibre helps help weight control Dietary fibre helps prevent constipation