Fact sheet on Protein

Every cell in our body contains some protein, whether it is a part of muscle, bone, skin, lymph or blood. Protein represents about 15% body weight of a human and is essential for growth, repair, reproduction and for the synthesis of hormones. Growth can only occur if the tissues receive the nutrients needed for the synthesis of their protein and other molecules. It is therefore important that the body receives an adequate diet.

Protein is made up of a mixture of amino acids and we must eat the correct combination of amino acids for protein synthesis. If this is not achieved body protein content will decrease as protein degradation increases. Impairment to health and decrease in strength and endurance is likely to occur. 8 of the 22 amino acids found in our diet are classified as essential and must be provided by the food that we eat. The protein content of foods is highly variable and care must be taken to ensure an adequate protein intake, particularly if vegetarian or vegan.

The 8 essential amino acids are:

- isoleucine
- leucine
- lysine
- methionine
- phenylalanine
- threonine
- tryptophan
- valine

There are 2 types of protein source - animal and vegetable:

1) Animal proteins - meat (including chicken) and meat products, offal, fish and fish products, shell fish, cheese, yoghurt, egg, milk and gelatine

2) Vegetable proteins - beans, lentils and peas including chick peas, butter beans, baked beans etc. textured vegetable protein (TVP) and other meat alternatives e.g. Quorn, nuts and nut products, bread, potatoes, cereals, rice and pasta.

Animal proteins supply a good amount of all the essential amino acids but tend to be high in fat. Vegetable proteins are not complete protein so if a particular vegetable protein is eaten by itself our bodies cannot take full advantage of it as a protein source. However, eating 2 or more vegetable proteins form a complete protein can be used by our body.

The following is a short list of vegetable meals that go well together:

- peanut butter sandwich

- muesli
- baked beans on toast

High intakes of protein can put extra strain on the liver and kidneys and also contribute to bone demineralisation. Excess protein is converted into energy which will be stored as fat in the body. Protein you eat cannot be stored by the body as protein so therefore the body requires a new supply daily.

The estimated average requirement for a person is between 0.6g/Kg - 0.75g/Kg body weight per day.