

**Introduction:** Write 1-2 lines linking to the briefs opening statement

(Nutritional Awareness and a positive approach to healthy eating are important factors for young people who participate in active sport)

Eg: write about the importance of nutritional balance for an active young person to help training and recovery

**Nutrition Needs of young people who participate in active sport (nutrient, function, sources, RDA)**

**Energy** Young people in active sport require more energy than those who are not active. Active males require 2800 kcal whereas active females require 2500kcal. 50% of energy should be sourced from carbohydrates, 35% from fats and 15 % from protein. Fuel stores used for energy need to be replaced. If energy requirements fall so too should the amount of calories consumed.

**Carbohydrates** are essential for young people who participate in active sports to provide energy. 6 or more servings of carbohydrates should be consumed daily. Processed refined carbohydrates found in a high GI diet containing sweets, biscuits, high sugar cereals give a quick release of energy for an active young person but too much should be avoided in the diet as it can lead to obesity and type 2 diabetes. Complex carbohydrates found in a low GI diet containing natural foods such as wholemeal bread, pasta, rice, noodles, potatoes and breakfast cereals give a slow release of energy while participating in sports. Include fibre rich foods in the diet by having wholemeal bread and pasta, whole grain rice, dark green veg, outer husks and skins of fruit and veg. RDA of fibre is 25-35g. Fibre absorbs 8 times its own volume of water therefore creating bulk in the diet and giving a feeling of fullness. It aids peristalsis, helping to move through the digestive tract, preventing constipation and other bowel disorders such as diverticulitis and colon cancer

**Fat** is required in small amounts for heat and energy, to protect delicate organs and to provide a source of the fat soluble vitamins A, D, E, K. Active young people need to limit their intake of saturated fat in order to prevent the risk of obesity, non-insulin dependent diabetes or coronary heart disease in later years. 30% of calories consumed daily should come from fat intake! No more than 10% of the total fat intake should come from saturated fat. Polyunsaturated fatty acid such as omega 3 and 6 helps to aid brain function, memory and concentration especially important for young people who are studying. It also has a role to play in preventing heart disease and certain types of cancer. Good sources include oily fish e.g sardines, tuna, herring. Avoid hydrogenated fats and Low Density Lipoprotein fats.

**Protein.** Active young people require protein for physical growth and allow for the repair of muscles after exercise. Young people also require protein for the production of hormones, enzymes & antibodies. High biological value (HBV) protein supply the body with all the essential amino acids e.g leucine, isoleucine & valine. Good sources of HBV, animal protein suitable for a young active people include chicken, fish, milk, cheese, yogurts. Good sources of Low Biological Value (LBV) vegetable protein include peas, bean, lentils and soya beans. The RDA for protein is based on body weight & rate of growth. On average an adult requires 1 gram of protein per kilogram of body weight. Eating two LBV proteins together can supplement each other ensuring all essential amino acids are obtained. An ideal balanced meal for an active young person is beans on toast. Beans are high in lysine but low in methionine whereas bread is low in lysine and high in methionine.

**Vitamin B** is essential for growth, muscle functioning and metabolism which is the release of energy from food. Thiamine can be found in whole grains, cereals, eggs, fortified bread and breakfast cereals

**Vitamin C** is required to maintain a healthy immune system, it is a powerful antioxidant to protect the body and also has a key role in the absorption of iron. It is found in most fresh fruit and veg, young people should have at least 5 servings of fruit & veg daily. Excellent sources include citrus fruit e.g oranges, lemon, limes. RDA is 60mg for young people. Vit c aids the absorption of iron. Helps prevent scurvy.

**Iron** is required for the formation of the pigment hemoglobin in red blood cells. It transports oxygen around the body. Iron is needed to prevent anaemia. Symptoms include tiredness, weakness, headaches, paleness & breathlessness. Girls are at more at risk due to menstruation, however it can affect males also. Students should include cheap haem sources in the diet such as mince meat and offal e.g liver and kidney. Good sources of non-haem iron include eggs, whole grain cereals and dark green veg. RDA is 10mg. Vit c is essential for iron absorption.

**Vitamin D** - assists in the absorption of calcium and has a major role to play in the development of strong bones and teeth. It helps prevent osteomalacia and osteoporosis in later years. Adults require 800mg daily. Students should have diet rich in calcium especially until they reach their peak bone mass density at 21. Excellent sources for students on a budget include cheese, milk, yogurt, canned fish e.g. Sardines & salmon, fortified flour and hard water. Tannins found in tea and coffee can hinder absorption to these should be kept to a minimum. (you can discuss Calcium here)

**Calcium and phosphorus** work together with vitamin D for the formation of healthy bones and teeth and to avoid osteomalacia later in life. It is also responsible for normal blood clotting, for good nerve and muscle functioning to prevent muscle cramps. Adults require 800mg a day. Cheap sources for a student are flour, milk, cheese, spinach and cabbage.

**Vitamin A** - retinol is essential for the production of rhodopsin (a pigment in the retina which allows the eye to adapt to dim light), healthy lining membranes in the eye, respiratory and digestive tract. It also keeps skin and hair healthy. Cheap sources include cheese, egg yolks and oily fish e.g. Tuna or salmon. Beta-carotene found in carrots, spinach, tomatoes and kale acts as an antioxidant.

**Sodium** is required to maintain fluid balance in tissues, for normal muscle contractions and healthy nerve activity. However too much can result in hypertension. Avoid processed foods, smoked and cured meats, and adding salt to foods. RDA of Sodium is 1.6g.

**Water** - 2 litres required daily. It is an essential part of all body tissues and fluids, involved in hydrolysis during digestion, quenches thirst and prevents dehydration. Can be obtained from bottled or tap water, tea, coffee, fruit and vegetables.

**Meal planning guideline**

**Planning meals**

- Plan to bring snacks e.g fresh fruit, vegetable sticks to avoid buying high sugary refined foods that may lead to obesity and type 2 diabetes
- Consider time available to cook dinners. Active young people should consider the possibility of freezing in portions
- Plan meals that can be made using low fat cooking methods cooking methods such as grilling, boiling, steaming, poaching. Frying should be avoided as it increases fat intake which can lead to obesity and CHD
- Choose low fat foods.....give examples and state why
- Include foods rich in calcium.... Give examples and state why this is important
- Include foods rich in iron.... Give examples and state why this is important
- Follow the food pyramid, ensure correct number of servings from each food group

- Avoid refined sugary breakfast cereals e.g. .... Instead choose cereals that are high in fibre e.g. porridge, all bran, branflakes as these keep a person fuller for longer
- Avoid adding sugar/salt to cooked food e.g.
- Students should choose low fat dairy products

**Suitable dishes for Menus (x3) Starter and Main or main and dessert to be written in a menu format**

Spaghetti bolognese, with wholemeal pasta & side salad  
Chilli con carne with whole grain rice & side salad  
Wholemeal lasagne and side salad  
Chilli chicken pasta with broccoli  
Chicken curry with whole grain rice  
Chicken and pasta vegetable bake  
Beef stir fry with noodles  
Chilli tacos with mixed salad

**Chosen Dish**

Chicken Curry with wholegrain rice

**Reason for choice (two reasons)**

I chose this dish because:

It is a balanced meal with three of the four food groups – Chicken, vegetables and rice

The wholegrain rice is a low GI food which will help build up energy reserve prior to sport

The protein found in chicken is a good source of High Biological Value protein needed for growth and to repair cells after sport