**Topic list:**

**Unit R045:** Sports nutrition

Aims

In all walks of life, appropriate nutrition and diet are vital to our health and wellbeing. In the world of sport the right nutrition is as important as the right equipment and the right training methods, because without suitable nutrition a performer’s body would not be able to cope with the stresses and strains put upon it. This would lead not only to deterioration in performance, but also in health. The amount of legislation and media coverage that surrounds the use of supplements in elite sport, some of which are approved and some of which are prohibited, highlights the value placed on nutrition in modern day sport.

By completing this unit, learners will consider the composition of a healthy, balanced diet. They will also consider the necessity of certain nutrients in particular quantities and the effects of a poor diet. They will reflect upon the role that diet plays in different sports and activities, and use the knowledge gained to produce an appropriate, effective diet plan for a performer.

**Learning Outcome 1: Know about the nutrients needed for a healthy, balanced diet**

Learners must be taught:

* Characteristics of a balanced diet, i.e.
* meets the nutritional requirements of an individual
* includes foods from all of the food groups (e.g. meat and dairy, fruit and vegetables, fats and sugars)
* contains a variety of foods
* suits the needs/tastes of the individual (e.g. accounting for allergies/intolerance to some ingredients)
* what nutrients are (e.g. chemicals a living organism needs in order to live and grow)
* The role of nutrients in a healthy, balanced diet, i.e.
* carbohydrates (e.g. quick supply of energy)
* fats (e.g. slower supply of energy, transport some vitamins around the body)
* proteins (e.g. repair muscle damage)
* fibre (e.g. helps maintain healthy bowels)
* water (e.g. keeps the body hydrated)
* vitamins and minerals (e.g. help strengthen bones, maintain a healthy immune system)
* Food sources of nutrients, i.e.
* carbohydrates (e.g. pasta, potatoes)
* fats (e.g. dairy products, fish)
* proteins (e.g. meat, pulses)
* fibre (e.g. cereals, wholemeal bread)
* Vitamins and minerals (e.g. fresh fruit and vegetables).

**Learning Outcome 2: Understand the importance of nutrition in sport**

Learners must be taught:

* The importance of nutrition before, during and after exercise, i.e.
* before (e.g. hydrate, provide energy source, quick energy boost)
* during (e.g. stay hydrated, replenish carbohydrates if lengthy exercise)
* after (e.g. rehydrate straight away, eat a meal containing carbohydrates and protein within 2 hours to aid recovery)
* The reasons for the varying dietary requirements of different activity types, i.e.
* endurance/aerobic activities (e.g. marathon running, cross country skiing)

– Carbohydrate loading, hydration

– Energy needed for long periods

– High levels of hydration needed to sustain activity over long periods

* short, intense/anaerobic activities (e.g. 400m swim, a game of basketball)

– Carbohydrates (not carbo-loading), low fat

– energy for short, sharp bursts of activity, aid recovery)

* strength based activities (e.g. weightlifting)

– High in protein, 5-7 meals every day

– build muscle mass, limit excess body fat

* The use of dietary supplements, i.e.
* definition of dietary supplements (e.g. products that provide nutrients which are either missing or being consumed in insufficient quantities)
* types of dietary supplements used in sport (e.g. multi-vitamins, protein powders, herbs, creatine)
* why they are used in sport (e.g. speed up recovery, increased energy, speed up the burn off of fat)
* issues associated with the use of supplements (e.g. confusion over which are/are not allowed in sport, links to potential health risks/injuries)

**Learning Outcome 3: Know about the effects of a poor diet on sports performance and participation**

Learners must be taught:

* the definition of malnutrition (e.g. a condition which results from an unbalanced diet in which some nutrients are lacking, missing, taken in excess or taken in the wrong proportion)
* The effects of overeating on sports performance and participation, i.e.
* if you are overweight your fitness will deteriorate (e.g. your flexibility, agility and stamina will decrease)
* you lose confidence and become anxious about participating
* you can develop a range of illnesses (e.g. high blood pressure, arthritis) which prevent you from participating in certain activities
* eating large amounts immediately before participating in a sports activity can make you feel sick during participation
* The effects of under eating on sports performance and participation, i.e.
* you will have less energy (e.g. not taking in enough carbohydrates) and tire quickly
* your muscles and bones weaken, increasing the risk of injury
* your concentration becomes impaired
* you may develop an eating disorder (e.g. anorexia) and train too hard leading to injury and/or illness
* you may develop an illness which prevents you from participating (e.g. kidney infections)
* The effects of dehydration on sports performance and participation, i.e.
* you can overheat leading to heat stroke
* your concentration becomes impaired
* you will tire more quickly
* You become ill during participation (e.g. vomiting).

**Learning Outcome 4: Be able to develop diet plans for performers**

Learners must be taught:

* How to design a diet plan, i.e.
* gather details about the performer that the diet plan is for (e.g. age, gender, any allergies or religious beliefs, food budget, cooking skill, the type of activity they perform in)
* clarify the aims of the diet plan (e.g. to lose weight, to increase length of time for which they can train prior to taking part in an event)
* set realistic goals which can be measured (e.g. to lose 2 pounds per week)
* the time of the year (e.g. is the performer training for an event, is it off season, what fruit and vegetables are available at that time of year)
* duration of the diet plan (e.g. suitable length to achieve goals)
* suitability of diet plan (e.g. diet meets the needs of the performer, proportions of the various nutrients are appropriate)
* organisation of diet plan (e.g. meals scheduled for set intervals, timing of a meal fits around other activities)
* How to evaluate the effectiveness of the diet plan, i.e.
* recording the outcomes objectively (e.g. measuring weight, diaries/journals of plan put into action)
* recording the outcomes subjectively (e.g. interviewing performer - is training feeling easier?, Are you more tired after training?, Are you bored with eating the same things?)
* ○ improvement (e.g. increase the number of meals but reduce the portion size).