CHAPTER 06

Knowledge Review

Q1: What nutrients are known as the macronutrients?

A1:

Carbohydrates, fats and proteins.

Q2: What nutrients are known as the micronutrients?

A2:

Vitamins and minerals.

Q3: What is an essential nutrient?

A3:

Nutrients are the absorbable components in food, and there are six kinds of essential nutrients: carbohydrates, fats, protein, vitamins, minerals and water. They fall into three groups: macronutrients; micronutrients; water.

Q4: What is glycogenolysis?

A4:

The conversion of glycogen to glucose.

Q5: When might intake of high GI carbohydrates be useful?

A5:

During sporting events lasting longer than an hour, high GI carbohydrates have a role in providing short-term energy. In the hour or two following exercise, fast-releasing carbohydrates quickly replenish glycogen stores in

both muscle and liver. Glycogen depletion is linked to slower rates of muscle regeneration. Sports drinks can be an easy way of ingesting these carbohydrates. With less than 24 hours between exercise sessions, fast glycogen replenishment is particularly important, and high GI carbohydrates are needed.

Q6: What is a saturated fatty acid?

A6: Fats from animal sources, like dairy foods and meats, are high in saturated fatty acids. Most saturated fats are solid at room temperature. Dietary saturated fats are associated with such health problems as heart disease, hypertension, some cancers and inflammatory processes.

Q7: What is an incomplete protein?

A7: Incomplete proteins usually lack one or more of the essential amino acids. Most plant sources of protein are incomplete, but the same amino acid is not missing in all. All essential amino acids can be obtained by eating a variety of plant foods like grains, beans, vegetables, fruits, nuts and seeds. [Complete proteins are foods that include all essential amino acids. Most animal products, like lean meat, fish, eggs and cheese, are complete proteins.]

Q8: Give examples of two antioxidant nutrients.

A8:

The antioxidant nutrients most capable of fighting against free radicals include: vitamin A and its precursor, beta carotene, vitamin C, vitamin E, and the mineral selenium.

Q9: Which mineral is closely associated with transport and storage of oxygen?

A9:

Iron

Q10: What is the major cause of water loss in exercise?

A10:

Sweating

Q11: How can the hydration state be monitored?

A11:

The colour of urine can be used to monitor the hydration state. A pale straw colour indicates good hydration.

Q12: What are the benefits of including sodium in a sports drink?

A12:

A drink containing some sodium chloride [table salt] reduces the risk of hyponatremia, and causes more water to be retained without inhibiting thirst and may support glucose absorption.

Q13: Name a good source of omega 3 fat.

A13:

Excellent sources of Omega-3s are oily fish [e.g. sardines, mackerel, tuna, salmon, and herrings] and some vegetable oils like canola, flaxseed and walnut.

Q14: For what type of sport does creatine have potential benefit?

A14:

Creatine has benefits in activities where short bouts of very intensive exercise are interspersed with short recovery periods, such as in tennis or football.