

Applied Exercise and Sport Physiology, with Labs, 4e

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Chapter 15 – Study Guide Answers

What are the recommended daily caloric intake ranges for a moderately active adult male and female Age 19 to 30?

2600-2400 for a male and 2200-2000 for a female

What are the percentages of carbohydrate, protein, and fat in a typical American diet?

- Carbohydrate: 48-50%
- Protein: 16%
- Fat: 34%

What are the recommended percentages of carbohydrate, protein, and fat that should make up a healthy diet for athletes?

- Carbohydrate: 55 to 65%
- Protein: 12 to 15%
- Fat: 20 to 35%

What is the maximum percentage of total caloric intake recommended for simple sugars?

10%

What percentage of total calories should come from saturated fat?

No more than 10 %

What percentage of total calories should come from mono- and poly-unsaturated fats?

10 to 25%

Fat produces more than twice as much energy per gram as carbohydrates, so why are carbohydrates favored for athletes?

Fat requires more oxygen for each calorie, and in many athletic events the energy production per unit of oxygen consumed is of high importance.

What is the recommended carbohydrate intake after a competition?

Within 30 minutes after exercise, athletes should consume 1.0 to 1.5 grams of carbohydrate per kg of body weight at 2 hour intervals for up to 6 hours

Why is it better to take in carbohydrates immediately after an event rather than waiting?

Glycogen synthesis is greater when carbohydrates are ingested immediately after exercise. Failure to replenish glycogen can result in poor performance.

Name six factors that affect protein metabolism.

1. Mode of exercise
2. Frequency of exercise
3. Intensity of exercise
4. Duration of exercise
5. Training status
6. Quality of protein

Do people need vitamins to supplement their normal diet as a result of the increase in metabolism due to exercise?

If the diet is sound in the first place, supplementary vitamins are not needed. Eating larger amounts of food as daily workout levels increase usually provides the needed increase in vitamins.

Name some groups of athletes who may require iron supplementation (under medical guidance).

- Male and female endurance athletes
- Adolescent athletes
- Athletes who lose weight for competition
- Vegetarian athletes

Why is it important not to give iron supplements to athletes without medical supervision?

Doing so can induce deficiencies of other trace minerals and may produce iron overload in some people

What are the three stages of iron deficiency? Describe the characteristics of each.

1. **Prelatent iron deficiency:** characterized by a decrease or absence of storage iron
2. **Latent iron deficiency:** characterized by an increased total iron binding capacity and reduced serum iron
3. **Frank anemia:** characterized by a drop in the hemoglobin level below normal values

What five characteristics should pre-exercise meals have?

1. Sufficient fluid to maintain hydration
2. Be low in fat and fiber
3. Be high in carbohydrate
4. Be moderate in protein
5. Be composed of food familiar to the athlete