Commission on Dietetic Registration
Sports Dietetics
Detailed Content Outline

I. ENERGY METABOLISM AND WEIGHT MANAGEMENT (23%)

A. Energy Metabolism

1. Design nutrition strategies for active individuals and populations applying the principles of energy metabolism
2. Explain how energy is stored in skeletal muscle and other tissues
3. Describe oxygen transport in exercise and training (e.g., respiratory and cardiovascular response to exercise, VO2 max testing)
4. Evaluate factors influencing substrate use and exercise metabolism (e.g., intensity, duration, frequency, nutrition, training status, gender)
5. Evaluate factors that contribute to exercise-induced fatigue

B. Energy Balance and Weight Management

1. Describe energy balance (energy intake and expenditure) in active individuals and populations
2. Design weight loss strategies for active individuals and populations
3. Design weight loss strategies for specific sports (e.g., wrestling, gymnastics, crew, boxing, diving)
4. Design weight maintenance strategies for exercise and training
5. Design nutrition strategies for gaining weight, lean mass, and strength
6. Evaluate the role of aerobic training and strength training in management of body weight
7. Evaluate the efficacy and safety of popular diets for weight management, health, and performance

II. MACRONUTRIENTS AND MICRONUTRIENTS OF ACTIVE INDIVIDUALS AND POPULATIONS (22 %)

A. Carbohydrate

1. Explain the use of carbohydrates during exercise training, competition, and recovery
2. Design nutrition plans for individuals and groups incorporating exercise-specific recommendations for carbohydrates
3. Evaluate special issues related to carbohydrates (e.g., Glycemic index, low carbohydrate diets, carbohydrate loading, sports drinks, gels)

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B. Fat

1. Explain the use of fat during exercise training, competition, and recovery
2. Advise clients regarding fat consumption within a nutrition plan
3. Evaluate special issues related to fat intake, fat storage, and health (e.g., omega-3, trans fats, high/low fat diets)

C. Protein

1. Explain the use of protein and amino acids during exercise training, competition, and recovery
2. Design nutrition plans for individuals and groups incorporating exercise-specific recommendations for protein
3. Evaluate special issues related to protein (e.g., protein and amino acid supplements, potential side effects of excessive/inadequate protein intake, animal vs. plant sources)

D. Vitamins, Minerals, and Antioxidants

1. Describe vitamin and mineral requirements for training and exercise
2. Evaluate effects of inadequate vitamin and mineral status on health and performance (e.g., iron, calcium, zinc, B vitamins and vitamin D)
3. Describe the potential risks of excessive vitamin and mineral supplementation on health and performance
4. Describe antioxidant function in relation to exercise, recovery, and long-term training adaptations
5. Describe the efficacy of vitamin and mineral supplementation on health and performance

III. NUTRITION ASSESSMENT (10%)

A. Conduct nutrition assessment for active individuals and populations

B. Evaluate nutrition status for active individuals and populations (e.g., dietary intake, physical assessments, medical and health history, biochemical analyses, anthropometric measurements)

C. Conduct body composition assessments

D. Evaluate body composition

E. Estimate total energy expenditure in active individuals and populations

F. Describe the effects of nutrition and exercise on health and performance

G. Design nutrition assessment and education protocols as part of a multi-disciplinary team

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IV. TRAINING, COMPETITION, AND RECOVERY (29%)

A. Hydration

1. Evaluate fluid and electrolyte balance in training and performance
2. Evaluate the effects of dehydration, over-hydration, hypothermia, and hyperthermia on training and performance
3. Discuss the risks of hyponatremia on training and performance
4. Design strategies for maintaining hydration and electrolyte balance before, during, and after exercise
5. Evaluate beverages for training, performance, and recovery
6. Evaluate the effects of environmental conditions on hydration status (e.g., heat, humidity, cold, altitude)
7. Evaluate the effect of supplemental products on hydration status (e.g., salt tablets, alcohol, caffeine, pickle juice, glycerol)

B. Design Nutrition Strategies for Individuals and/or Groups…

1. For pre-workout and pre-competition
2. During training and competition
3. To delay fatigue during and following training and competition
4. For recovery following training and competition
5. For eating on the road and traveling
6. For recovery from sports injuries or overtraining
7. For grocery shopping and meal/snack preparation/selection

C. Dietary Supplements

1. Evaluate dietary supplement use
2. Evaluate supplements and ergogenic aids using evidence-based analyses (e.g., effectiveness, quality control, safety, and legality)
3. Advise clients regarding supplements and ergogenic aids using evidence-based analyses (e.g., effectiveness, quality control, safety, and legality)
4. Evaluate drug supplement, and nutrient interactions

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V. DISORDERED EATING AND EATING DISORDERS (8%)

A. Differentiate between clinical and sub-clinical eating disorders

B. Describe impact of disordered eating and eating disorders on health, training, and performance

C. Educate individuals on risk factors associated with disordered eating, eating disorders, and distorted body image

D. Develop nutrition strategies for the treatment of disordered eating and eating disorders

E. Refer individuals to other professionals as needed

F. Participate as a member of a multi-disciplinary treatment team

VI. NUTRITION FOR SPECIAL POPULATIONS (8%)

Design nutrition strategies for active…

A. Individuals with chronic disease risks

B. Individuals exhibiting signs/symptoms of the female athlete triad (disordered eating, amenorrhea, bone mineral loss)

C. Individuals who are vegetarians

D. Individuals with acute or chronic illness and/or injury (e.g., gastrointestinal disorders, type 1 and 2 diabetes, cardiovascular disorders, stress fractures, post-surgery)

E. Children, adolescents, and young adults

F. Adults over 50

G. Individuals with food allergies, sensitivities, or intolerances