



NUTRITION GUIDELINES FOR ACTIVE INDIVIDUALS

The Numbers

GENERAL FITNESS TRAINING (exercising 30-60 minutes per day, 3 times per week) can typically meet nutritional needs following a well-balanced diet.

ENERGY INTAKE: 1,800 - 2,400 kcals/day

CARBOHYDRATES: 45-55% 3-5g/kg/day

PROTEIN: 10-15% 0.8-1g/kg/day

*Older individuals may benefit from a higher protein intake of 1-1.2g/kg/day to help prevent sarcopenia

FAT: 25-35% 0.5-1.5g/kg/day

MODERATE TO INTENSE LEVELS OF TRAINING (intense exercising 2-3 hours per day performed 5-6 times per week) can meet nutritional needs following a well-balanced diet with a slightly higher caloric intake.

ENERGY INTAKE: 1,800 - 2,400 kcals/day

CARBOHYDRATES: 5-8g/kg/day

PROTEIN: 1-1.5g/kg/day

*Exercising individuals need approximately 1.4-2g/kg/day. concerns with protein intake within this range is unhealthy are unfounded in healthy, exercising individuals.

FAT: 0.5-1.5g/kg/day

HIGH VOLUME LEVELS OF INTENSE TRAINING (3-6 hours per day performed in 1-2 workouts for 5-6 days per week) may expend 600-1,200 kcals or more per hour during exercise

ENERGY INTAKE: 2,500-8,00 kcals/day

CARBOHYDRATES: 8-10g/kg/day

PROTEIN: 1-1.5g/kg/day

FAT: 1.5-2g/kg/day

Carbohydrates

It takes approximately 4 hours for carbohydrates to be digested and begin being stored as muscle and liver glycogen. Pre-exercise meals should be consumed 4 to 6 hours before exercise.

Ingest a light carbohydrate and protein snack 30-60 minutes prior to exercise

The majority of dietary carbohydrates should come from complex carbohydrates with a low to moderate glycemic index (e.g. whole grains, vegetables, fruit, etc.)

Protein

Not all proteins are the same and special attention must be paid towards the quality and bioavailability of the protein. The best sources of high quality proteins are light skinless chicken, fish, egg white, and skim milk (casein and whey).

An attempt should be made to obtain protein requirements from whole foods, but supplemental protein is safe and convenient method of ingesting high quality dietary protein.

The timing of protein intake in the time period encompassing the exercise session has several benefits including improved recovery and greater gains in fat free mass.

Branched Chain Amino Acids (BCAA's) have been shown to be beneficial to the exercising individual, including increasing the rates of protein synthesis, decreasing the rates of protein degradation, and possibly aiding in recovery from exercise.

Fat

It is recommended that athletes consume a moderate amount of fat (approximately 30% of their daily caloric intake) to maintain energy balance, replenish intramuscular triacylglycerol stores and adequate consumption of essential fatty acids.

For athletes attempting to decrease body fat, it is recommended to consume between 0.5 -1 g/kg/day of fat. The type of dietary fat is plays an important role to promote health.

Examples of good sources of fat: avocado, nuts and seeds, low fat dairy, coconut oil, olive oil

Micronutrients

Athletes should consume at least the RDA or Adequate Intake (AI) for all micronutrients. Below are specific micronutrients of concern for athletes:

Iron

– effects distance runners, vegetarian athletes, and regular blood donors. Aim for an iron intake greater than the RDA >18mg women and >8mg men

Vitamin

D – effects athletes who live at latitudes >35th parallel or who primarily train indoors, dark complexion, high body fat content, undertake training in the early morning or evening when UVB levels are low, and aggressive blocking of UVB exposure. Determining vitamin D requirements for optimal health and performance is a complex process. Vitamin D blood levels from 80nmol/L and up to 100nmol/L to 125nmol/L have been recognized as safe. The Institute of Medicine recommends a Vitamin D intake between 400 -4,000 IU/day.

Calcium

– important for growth, maintenance and repair of bone tissue. Low levels are associated with restricted energy intake, disordered eating and/or specific avoidance of dairy products. Intake of 1,500mg/day and vitamin D intake of 1,500-2,000 IU/day are needed to optimize bone health in athletes.

Antioxidants

–protect cell membranes from oxidative damage. Chronic exercise can induce oxidative stress on the body cause a need for increased antioxidants in the diet. However, this can be achieved through a well-balance diet and little evidence suggests a need for antioxidant supplementation. Aim for a variety of fruits and vegetables including garlic, onion, ginger and heirloom vegetable varieties.

Hydration

Appropriate fluid intake before, during and after exercise is important for health and optimal performance. The RDA for fluid intake is 13 cups for adult males and 9 cups for adult women (pregnant and nursing women require additional fluids). During exercise the goal of drinking water is to replenish sweat losses which occur to assist thermoregulation. After exercise restore fluid balance by drinking 1.5L for every 1kg body weight lost.

Reference:

Kreider et al. Journal of International Society of Sports Nutrition 2010, 7:7 <http://www.jissn.com/content/7/1/7>

Position Paper of Dietitians of Canada, the Academy of Nutrition and Dietetics and the American College of Sports Medicine, February 2016.