

SPORTS NUTRITION

Diet plays a vital role in providing adequate energy for physical activity and daily functions. The type, amount, composition and timing of food intake can dramatically affect performance and recovery from exercise, specifically the food that is eaten before and after training or competition. Since high volume or high intensity training stresses the body, proper nutrition and fluids are needed for recovery.



Recovery begins immediately after exercise ends. Two nutrients, protein and carbohydrates, play a vital role in this process and deserve special attention. Both should be eaten immediately following exercise, ideally in combination for better absorption and utilization by the body. The size of the athlete and type of workout play a role in how much carbohydrate and protein should be consumed and should be specific to an individual's needs and goals. A well-planned vegetarian diet that meets energy needs can provide adequate protein for athletes without the use of supplements.

Intensity	Pre-workout fuel 1-2 hours before exercise	Post-workout fuel within 30 minutes post-exercise
Low intensity <30 minutes short walk, yoga, stretching	<ul style="list-style-type: none"> • Food: Light carbohydrate-rich snack: Banana, low-fat yogurt • Hydration: water 	<ul style="list-style-type: none"> • Food: Combination of protein and carbohydrates: An egg with a piece of toast or cottage cheese with fruit • Hydration: water
Moderate intensity 30-60 minutes bike ride, running, swimming, strength training or group exercise class	<ul style="list-style-type: none"> • Food: Banana with nut butter or half a sandwich made with whole wheat bread and a source of lean protein or hummus. • Hydration: water 	<ul style="list-style-type: none"> • Food: Non-fat milk, Greek yogurt with fruit or a smoothie with plant based protein powder and berries • Hydration: water
High intensity >60 minutes competition or game, workouts with high volume	<ul style="list-style-type: none"> • Food: Oatmeal with nuts and fruit, a slice of whole wheat toast with nut butter and yogurt or a serving of lean protein and a starchy carbohydrate ex: sweet potato • Hydration: sports beverage 	<ul style="list-style-type: none"> • Food: Quinoa, brown rice or other complex carbohydrates, 1 - 2 servings of lean protein such as beans and a serving of veggies. Aim for at least 20g of protein at this meal • Hydration: sports beverage





A good workout does not give you permission to eat whatever you want. Make an effort not to “reward” your workout with high-calorie or unhealthy foods. Replenish with healthy sources of carbohydrates, protein and a small amount of healthy fat. The work that is put into your workouts is reflected through good nutrition.

Protein & Carbohydrate Recommendations

Power athletes (strength or speed)

1.2 - 1.7g protein/kg/day
5 - 7g carbohydrates/kg/day

Endurance athletes (running, cycling, swimming)

1.2 - 1.4g protein/kg/day
6 - 10g carbohydrates/kg/day

Better Nutrition = Better Exercise

Proper nutrition can:

- ✦ Help you train longer at higher intensity
- ✦ Improve recovery and reduce fatigue
- ✦ Improve strength and body composition
- ✦ Improve/maintain immune function
- ✦ Reduce the chance for stomach discomfort during workouts
- ✦ Improve overall performance

References:

1. Dunford, M. (2010). Fundamentals of sport and exercise nutrition. Champaign, IL: Human Kinetics.
2. Williams, M. (2010). Nutrition for health, fitness & sport (9th ed.). Boston, Mass.: McGraw-Hill.
3. How to Fuel Your Workout. (n.d.). Retrieved January 21, 2015, from <http://www.eatright.org/Public/content.aspx?id=6442471759>
4. Position of The American Dietetic Association and The Canadian Dietetic Association: Nutrition for physical fitness and athletic performance for adults. (2009). Journal of the American Dietetic Association, 691-696.



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