

## 10 ESSENTIALS TO WINNING SPORTS NUTRITION

1. **Muscles = Fuel Tanks.** Rapid response fuel is stored carbohydrates (muscle glycogen). Eat carbohydrate-rich foods before exercise to slow down the depletion of your fuel tanks.
2. **Fuel Up With Carbohydrates at Optimal Times.**
  - Eat a large meal 4-6 hours before activity (complex carbs/low fiber).
  - Eat a lighter meal 2=3 hours before activity (complex carbs/low glycemic index and simple carbs).
  - Eat a snack up to 1 hour before activity (simple carbs/high glycemic index).
3. **Keep Your Fuel/Electrolytes Topped Off.** For a long duration activity (90 + minutes), drink fluids or gels with a solution of rapidly absorbed simple carbs and electrolytes.
4. **Make Use of Your Reserve Fuel Tank.** Stored body-fat equals fuel for long-haul activity but only if carbohydrates are present to help access them. (Although we have potentially unlimited supply of fuel as stored fat, we can only burn fat when it's combined with carbohydrates.)
5. **The Importance of Fluids.** You must continually replace water loss during training and competition. Every athlete is different and conditions vary so it is important to experiment during training to become aware of your personal hydration needs. To test your fluid needs, weight yourself before and after training to determine approximate fluid loss.
6. **Protein for Muscle Maintenance and Muscle Growth.** You need 1.25 – 1.5 grams of protein per kilogram of body weight daily during periods of endurance training.
7. **Proteins vs Carbohydrates.** Carbohydrates are instant fuel for muscles. Protein repairs damaged muscles after exercise, maintains muscle mass and possibly helps your body access carbohydrate fuel during prolonged exercise. There is strong research that suggests a 4:1 ration of simple carbs to easily absorbed protein is an optimal fueling strategy during long-duration training or events.
8. **Best Time to Refuel the Tanks (muscles).** Within 30 minutes of ending exercise, take in easily digested carbohydrates, which will be converted to glucose and stored as glycogen (quick fuel). In addition, high anti-oxidants ingested during this window have been shown to help a body flush free radicals and prevent stiffness.
9. **Reducing Recovery Time.** Increase anti-oxidant nutrients and ensure adequate supplies of protein in your overall diet.
10. **Supplementation.** Maintaining nutrient balance is essential during all phases of training. Vitamins and mineral supplements assist you body's chemical reactions, regulatory processes and forms structures important to athletes who may be susceptible to decreased immune systems as a result of extensive physical exertion.

-information for The Ten Essentials was synthesized from articles published in Triathlete and Inside Triathlon magazines as well as material from Criticalspeed.com and an information fact sheet from Heather Livingston, Herbalife International. Compiled by Jonathan Hoskins