

Nutritional Guidelines for Triathletes

Below are guidelines I've evolved from 15 years of racing, research, presentations from nutritionists and working with my clients.

Keep in mind that nutrition can be highly individual on race day so what works for one person may not work for another. Therefore, it is critical to practice your nutrition strategy during your workouts to learn what works best for you on race day.

If you continue to have nutritional issues that you cannot resolve, it's best to seek out a nutritionist who has experience working with the unique nutritional needs of endurance athletes.

Everyday Nutritional Guidelines

David's general approach to eating (not a recommendation, just an example):

In general, I try to eat "healthy," which I define as:

- High % of carbohydrate with emphasis on complex carbohydrates – pastas, brown rice, whole grains, fresh fruits and vegetables
- Adequate lean protein – chicken breasts, fish, turkey, lean red meat, Greek-style yogurt
- Low fat – avoid saturated and trans fats as much as possible
- Drink fluids throughout the day – water, water with Emergen-C, low calorie sports drinks (except when training then regular sports drink for the sugar)
- I do not count calories and generally eat until I am almost full.
- Supplement with multi-vitamin, essential fatty acids, D3, B vitamins and Glucosamine / Chondroitin for anti-oxidants, recovery, joint maintenance.

Comments:

- Caloric needs dependent on body size, metabolic rate (some people just burn more calories), exercise volume and exercise intensity
- Rather than focus on changing body weight, focus on changing body composition (e.g. decrease fat, increase lean muscle mass)
- As Mark Twain once said, "*All things in moderation, especially moderation.*" Don't be a slave to your diet. I also drink coffee and alcohol in moderation.

Workout and Racing Nutrition

Pre-Race or Workout

Goal: Top off energy stores (blood glucose and muscle glycogen) to maximize available energy and top off fluid stores to delay onset of dehydration. Minimize stomach distress on race morning.

When	What
Day before	<ul style="list-style-type: none"> • Eat carbohydrate rich meal • Low in fiber • Include protein
Three hours before	<ul style="list-style-type: none"> • Eat a light meal that is mostly carbohydrate with some protein • Stick with what you know works for you from training
15-20 minutes before	<ul style="list-style-type: none"> • Liquid carbohydrate source (6-8%) or water with a gel • Tops off blood glucose

During a Race or Workout

Goal: Maintain energy stores to maximize available energy and replace fluid stores lost to sweating in order to delay onset of dehydration

A limiting factor is your stomach's ability to absorb foods and fluids. Drinking small amounts of fluid frequently is preferable to drinking large amounts of fluid less frequently.

Target carbohydrate caloric replacement (per Dave Scott): 25-33% of calories burned each hour. Calorie expenditure is a function of body size, exercise type/intensity and exercise duration. Calculate your caloric expenditure using tables or have a Resting Metabolic Rate (RMR) test done.

Duration of Workout / Race	What
< 60 minutes	<ul style="list-style-type: none"> • Water only needed • Fluid with carbohydrate (e.g. HEED, Gatorade Endurance, etc.) may be desirable approaching one hour mark if exercise at high intensity. • Fluid with carbohydrate should be consumed if additional workouts later in the day and / or on subsequent days to replenish glycogen stores
1 – 4 hours	<ul style="list-style-type: none"> • Fluids with carbohydrate • Easily digestible carbohydrate source like Hammer Gel, Power Gel, etc.
4 – 12 hours	<ul style="list-style-type: none"> • Include more solid foods on bike (e.g. energy bars, Fig Newtons, Gummi Bears, etc)

	<ul style="list-style-type: none"> • Some drinks have protein in them but it may upset your stomach.
12 – 18 hours	<ul style="list-style-type: none"> • Same as above but add more solid foods
Hot and/or humid conditions	<ul style="list-style-type: none"> • Consume electrolytes (i.e. sodium, potassium, calcium, magnesium) through products like Endurolytes, Nuun tablets, etc. to replace electrolyte loss due to sweat. • The more you tend to sweat when exercising, the more you will need to replace to mitigate cramping.

Post Event

- **Goal:** Restore fluid levels, replace lost energy stores and facilitate recovery. Body's ability to initiate rebuilding and replenishment peaks about 15 minutes after exercise. Within the first 30 minutes post-workout, the body is able to: (1) absorb and store carbohydrates more quickly and (2) increase rate of protein synthesis to rebuild.

When	What
Within 30 minutes post exercise	<ul style="list-style-type: none"> • Within 15-30 minutes post exercise, consume liquid carbohydrate source to replace glycogen consumed during exercise. • Include some protein • Good drinks: Recovery drink like Recoverite (Hammer Nutrition) or non-fat chocolate milk.

When Things Go Wrong...

Issue	The Fix
Start to bonk (low energy, light headed, feel bad)	<ul style="list-style-type: none"> • Sugar into bloodstream quickly - Cola, gel, non-chocolate candy • Slow down
Stomach distress or cramping	<ul style="list-style-type: none"> • Empty stomach (voluntarily or involuntarily) • Back off simple sugars, concentration of carbs – dilute with more water • Slow down and wait for stomach to settle
Muscle cramping	<ul style="list-style-type: none"> • Dehydration – drink more fluids <u>with</u> electrolytes • Excessive sweating – Electrolyte capsules / tablets (Endurolytes, Thermo Tabs) or salty foods like pretzels
Hyponatremia	<ul style="list-style-type: none"> • Caused by too much water, not enough electrolyte • Need to ingest sports drink with electrolyte plus electrolyte capsules / tablets

David's Ironman Race Day Nutrition Plan

The following is my approach to nutrition for races and long workouts. This plan is what works (at least most of the time) for me. It may or may not work for you – use your long workouts as “test runs” for your own nutrition plan.

When?	What?
Day before:	<ul style="list-style-type: none"> • Cut out spicy, heavy foods • Subway for lunch • Hydrate with sports drink – avoid pure water as this will dilute electrolyte balance
The night before:	<ul style="list-style-type: none"> • Grilled fish, rice or bread, light vegetables • Pasta with chicken and light sauce (olive oil, marinara but not cream sauce) • Pancakes with fruit and grilled ham • Avoid large salad
Three hours before:	<ul style="list-style-type: none"> • Oatmeal with jam, banana, coffee or • Peanut and jelly on bread, banana, coffee • Plus begin consuming sports drink
Up until about 20 minutes before:	<ul style="list-style-type: none"> • Sip water but not too much
15 to 20 min before:	<ul style="list-style-type: none"> • Consume half a bottle of sports drink
Swim	<ul style="list-style-type: none"> • Nothing – try not to swallow any water
Bike	<ul style="list-style-type: none"> • Wait 10-20 minutes for stomach to settle • Sip sports drink every 5-10 minutes (1 bottle every aid station; more if hot day) • Mix in water if sports drink too concentrated (e.g. Gatorade in a bottle) • Consider using some of own sports drink with complex carbohydrates (e.g. HEED) if only Gatorade (simple sugars) on course – extra bottles in special needs bag • Consume gel, bars, Fig Newton's, bananas, Gummi Bears every 10-15 minutes • More easy to digest solid foods during bike but switch back to gels during last hour • Target: 300-400 calories per hour

Run	<ul style="list-style-type: none"> • Mostly liquids – sports drink / cola / water every aid station • Sports drink also provides electrolytes (lost from sweating) • Gel or other easily digestible food (e.g. gels, Gummi Bears, etc) every few miles if stomach allows • Target: 300-400 calories per hour
Post-race	<ul style="list-style-type: none"> • Drink recovery drink <i>immediately</i> to replace fluids and carbohydrates and aid protein synthesis (recovery) • Continue to replace calories and fluids as needed.

Books

Benardot, Dan, PhD, Nutrition for Serious Athletes (Champaign, Illinois: Human Kinetics, 2000).

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Kleiner, Susan, PhD and Maggie Greenwood-Robinson, High-Performance Nutrition (NY: John Wiley & Sons, Inc, 1996).

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