



NUTRITION FOR RUNNERS

Fueling your body with proper nutrition is just as important as the runs themselves. Everyone is different, and there is no one way to fuel (or hydrate). The best thing you can do is to experiment now, while your mileage is still relatively low, to figure out what works and (more importantly) what doesn't. **Never try something new on race day!**

Nutrition Basics:

- You are what you eat
- Keep it in balance
 - **Carbohydrates:** 60-70% of caloric intake (7-10 grams/kg of body weight)
 - Used as primary energy source by runners
 - Is a primer for fat metabolism
 - Sources: brown bread, brown rice, pasta, vegetables, fruit
 - **Protein:** 10-20% of caloric intake (1.2-1.4 grams/kg of body weight)
 - Needed for muscle recovery and repair
 - Represents 5-6% energy used by runners
 - Sources: Nuts, avocados, fish, lean meats
 - **Fat:** 15-25% of caloric intake
 - Used as a secondary source of energy by runners and is the largest store of energy
 - Fat will be burned in prolonged low-intensity activity, but fat will not burn without carbohydrate as the fire-starter.
 - Fat is essential for specific bodily functions including delivery of fat-soluble vitamins (A, D, E and K) and for healthy skin and hair, insulation.
- Vitamins and Minerals – the body eliminates electrolytes through sweat (sodium, magnesium, calcium, iron)
- Water – used by the body to aid transportation of nutrients throughout the body and used to cool the body.

Where do we get the energy for running?

- The body converts carbohydrates into glucose, which is stored as glucose in the blood, and is converted to glycogen and stored in the liver and muscles.
- Your body will use carbohydrate (as glycogen) and fat as energy sources during running. As intensity increases your body will use proportionally more glycogen.
- Your body has unlimited fat storage capability but limited carbohydrate storage capacity.

Pre-Run Fueling

- Eat a small meal about 90 minutes before your runs. This should consist of a mix of complex carbs (200-400 calories) and a little protein, and something low in fiber to help prevent an upset stomach.

During the Run Fueling

- Once your runs get above 60-75 minutes, you need to take in fuel during the run. Your glycogen stores—the preferred fuel for hard-working muscles—deplete in as little as 60 minutes.
- Aim to take in 30-60 g (100-200 calories) of carbohydrates for each hour you run. You can get that fuel from sports drinks, gels, chewable blocks & gummies or bars.
- Stay ahead of your hunger and energy needs. Don't wait until an hour into the run to take in fuel. Instead, try to take in calories every 20-45 minutes (depending on the type of fuel you choose and the calories it offers). Example: take 1 GU with water every 30-45 minutes.
- Take gels with water; taking with a sports drink can lead to an upset stomach.
- Which type of fuel works best for you is based on personal preference: the consistency, flavor, and nutrient combinations all will contribute to how well a type of fuel works for you.

Post Run Recovery

- Exercise is known to suppress appetite; while you might not be hungry after a workout, recovery is enhanced when proper fuel is consumed. By eating a balanced post-workout meal or snack, the body will have the building blocks it needs to repair damaged muscles, replace lost energy stores, and recover faster so you won't be as sore post-workout, and can train harder tomorrow.
- Post-workout, remember the 3 R's for recovery: refuel with carbs, rebuild with protein, and rehydrate with electrolyte-rich fluids. Carbs and protein work together in the post-workout meal to enhance energy "glycogen" stores and stimulate muscle protein synthesis. Fluids with electrolytes like sodium and potassium are needed to replace what's lost in sweat.
- After a long run or tough workout, the body needs fuel within 30 minutes. If you can't get a full meal within 30 minutes of finishing the workout, have a small carbohydrate rich-snack with some protein: low-fat chocolate milk, recovery bar, pretzels with peanut butter, string cheese and crackers, bagel with cream cheese or peanut butter, yogurt with fruit. Then eat a meal with high-quality protein within two hours of the workout to get the most out of your recovery meal. Eating foods rich in antioxidants like fruits and vegetables can help the body recover quicker by reducing muscle soreness and preventing injury.