

How to Fuel on a Run

By Matthew G. Kadey

You've seen them in running stores: Nutritional supplements--gels, energy bars, sports drinks--that promise they can help you run faster and longer.

As a general rule of thumb, if you jog for 30 minutes, you only need to drink water. But if you're running longer than an hour, you need carbohydrates, says Kristine Clark, Ph.D., R.D., and the director of sports nutrition at Penn State University. That's because your body's blood glucose and muscle carbohydrate stores (glycogen)--the preferred fuel for hard-working muscles--become depleted in as little as 60 minutes.

Numerous studies have shown "the quick-digesting carbs in energy products boost blood glucose and help spare muscle glycogen during a long run," says Clark. The benefit: You get an energy jolt that helps you keep running. But with so many options, what should you consume? Use this guide to find what's right for you.

SPORTS DRINKS

With a mix of water and carbohydrates, sports drinks are quick-and-easy fuel that boost energy and keep you hydrated.

Why they work: To perform your best, you need between 30 and 60 grams of carbohydrate for each hour of exercise. Sports drinks like Hammer HEED, Powerade and Gatorade supply a blend of carbs, such as maltodextrin and glucose, plus water and sodium to prevent dehydration, says Nancy Clark, R.D., author of Nancy Clark's Sports Nutrition Guidebook. Besides helping replace what is lost through sweat, "sodium enhances the retention of fluids in the body," she says.

Choose the best: "Sports drinks should have a 6 to 8 percent carbohydrate concentration for the best absorption of the sugars and water," says Clark. To calculate this, divide the number of grams of carbohydrate in an 8-ounce serving by 2.4. For example, if a sports drink has 15 grams of carbohydrate per 8-ounce serving, the carbohydrate percentage is 6.25 percent.

Choose a sports drink with at least 110 mg of sodium per 8-ounce serving, a vital mineral you lose when you sweat. Some sports drinks, such as Gatorade Endurance or PowerBar Endurance, offer the same amount of carbs as regular sports drinks, but have an extra dose of sodium and potassium. "If you're exercising three or more hours or sweating buckets on a humid day, you may want one of these higher-sodium products," says Clark.

You also may consider sipping sports drinks with protein. University of Texas researchers found when subjects consumed a sports drink with added protein, they performed better during an endurance test than when they drank a carbohydrate-only beverage. If you opt for one of these, look for a 4:1 carb-to-protein ratio like that found in Accelerade drinks.

Keep in mind: Take care when making these drinks from powder, as over-concentrated mixes can cause stomach distress. Remember, these are basically sugar drinks with little nutritional value; drink them only for training.

How to use them: Drink at least two 8-ounce servings every hour to get the minimum 30 grams of carbohydrate.

GELS

The convenient single-serving packets make gels a popular on-the-run fuel source.

Why they work: Like sports drinks, gels such as GU, CLIF Shot and Hammer HEED have sugars and maltodextrins to provide fuel. "Energy gels provide a super-concentrated source of fast-acting carbohydrates," says Clark. Gels require no chewing--a plus when you're running hard.

Choose the best: Select a gel that has 25 to 30 grams of carbohydrates from sources such as honey, brown rice syrup or maltodextrin, and 50 mg of sodium per packet. Some brands such as e-Gel pump up the electrolytes (sodium and potassium), which you may need on long or intense runs.

Check the label for caffeine. British researchers found caffeine stimulates the central nervous system and brain, making exercise seem easier and allowing athletes to feel as if they can exercise longer. If you're not used to it, though, caffeine can make you jittery, Clark says.

Keep in mind: Gel packages can become a sticky mess when you use them, and you have to drink water each time you down one. Try a variety of gels during training to find one that agrees with you.

How to use them: How much gel you need depends on variables such as your weight and running intensity. Clark recommends one gel for every 30 to 40 minutes of running, starting during the first hour. It's essential to drink 16 ounces of water for every gel consumed.

ENERGY BARS

Great as pre-run or post-run snacks, you can eat bars during a run, too.

Why they work: Bars such as CLIF Bar and PowerBar are jam-packed with carbohydrates and are better than drinks and gels at satisfying hunger during long runs.

Choose the best: Select bars with 40 grams or more of carbohydrates, from ingredients such as dates or brown rice syrup, and small amounts of fat, protein and fiber.

Keep in mind: Bars with too much fat, protein and fiber can delay digestion. Choose a bar that has 200 to 250 calories with about 5 grams of fiber, 5 grams of fat and 10 grams of protein. Bars can also be challenging to eat when running, and you must drink water with them.

How to use them: Consume one bar for every hour you run. Break bars into equal-sized pieces prior to a run and eat them at regular intervals throughout exercise. Drink 4 to 8 ounces of water every 15 minutes when eating bars.

ENERGY CHEWS

Bite-size chews punch up your energy like a jolt of coffee.

Why they work: GU Chomps, LUNA Moons, CLIF Shot Blocks and other chews come in bite-sized pieces and pack in the same carbs found in drinks and gels. Because of the smaller caloric content, chews can be easier to digest than bars or gels.

Choose the best: Look for chews with about 5 grams of carbohydrate and 10 mg or more sodium per chew.

Keep in mind: Like gels and bars, drink water each time you pop one in your mouth. Chew them well to reduce choking risk.

How to use them: Five grams of sugar per chew means you need to consume at least six per hour of running. Drink 4 to 8 ounces of water every 15 minutes.

NATURAL FOODS

Many of the performance advantages of engineered sport products are found in food in your fridge or pantry.

Why they work: Some natural foods contain the right ratio of carbs to aid long-distance runners.

Choose the best: "Stick with high-carb, sugary options with less fat and protein, such as dried fruits, honey, Fig Newtons, Twizzlers or gummy bears," Clark says.

Keep in mind: Fruit contains fructose, which can cause stomach distress, and you still need to drink plenty of water--16 to 32 ounces per hour--to stay hydrated. If the food lacks sodium, add about 1/4 teaspoon salt per quart of water.

How to use them: To determine how much of a food you need to consume during a run, read the label or visit a site like nutritiondata.com. For example, an ounce of dried apricots has 6 grams of carbs, so you need at least 5 ounces every hour to reach 30 grams of carbohydrate intake.