

EXPIRES NEVER

The science of sports nutrition has evolved, but these classic products still get the job done.

By Kelly Bastone

YOU'D BE CRAZY to run a marathon without drinking anything along the way, yet that was the status quo until the 1960s. "People thought that drinking cold beverages while running would give you side stitches," says 1968 Boston Marathon winner and *Runner's World* Editor-at-Large Amby Burfoot. Eating on the run? Unthinkable.

"The concept of sports nutrition didn't exist as it does today," says Honey Stinger cofounder Bill Gamber, who became so famished during Ironmans in the '80s that he would devour a whole barbecue chicken after crossing the finish line.

Science has since helped runners understand the power of proper fueling, and today, sports nutrition has become a multibillion-dollar industry. While runners turn to their favorite brands, the principles are the same: simple carbohydrates, electrolytes, caffeine, carb-to-protein ratio, and protein for recovery. Here's a look at some major milestones—how they came to be and their value to runners today.



Today distance runners know to refuel with 30 to 60 grams of carbs every 45 to 60 minutes on runs over an hour.

1965 SPORTS DRINKS

Until the 1960s, athletes didn't understand the importance of hydration, and marathoners weren't allowed to drink water before the halfway mark. But when a University of Florida football coach asked researcher Robert Cade, M.D. (a 4:20-miler in high school), how players might get a competitive edge in hot weather, Cade suggested a cocktail of sucrose, glucose, sodium, potassium, and phosphate (sugar and electrolytes). "The early version had too much sodium for runners," says Burfoot, who participated in a 1970 study. Soon the Gators started winning—and sports drinks have since turned into a \$13 billion business.

TODAY'S TAKE "Carbs increase fluid absorption, keep you focused, and delay fatigue," says Kim Larson, R.D.N., C.S.S.D., Academy of Nutrition and Dietetics spokesperson. Drink up on runs over 60 minutes.

1978 COFFEE

Starting in the late 1970s, David Costill, Ph.D. (the first researcher to investigate whether sports drinks actually worked), and others started publishing studies suggesting that caffeine could boost endurance. Marathoners responded by drinking coffee before races. When they hit the market in 2008, Extreme Sport Beans became one of the first caffeinated sports nutrition products, with 50 milligrams of caffeine per pouch. Now you can get a kick from sports drinks, chews, and gels.

TODAY'S TAKE Recent studies confirm that caffeine keeps your mind sharp, releases free fatty acids (which spare glycogen stores and help you run longer), makes hard efforts feel easier, and isn't a diuretic. While some runners drink coffee only on race days for a boost, try it first in training so you'll know how it affects you.

1986 ENERGY BARS

Brian Maxwell was a top-ranked Canadian marathoner in the late '70s and early '80s when he started experimenting with portable carb sources that could sustain his blood-sugar levels in the later stages of races. He and his partner started distributing logs of oat bran, sugar, and protein, which became popular with Tour de France cyclists, and then the rest of the world. Competitors soon followed Maxwell's PowerBar, and now scores of brands target everyone from ultrarunners to desk jockeys.

TODAY'S TAKE There's a bar for every runner, whether vegan or Paleo. Brands like KIND and Lärabar emphasize whole foods. Watch the sugar content—some are candy in disguise. Before your run, look for a bar that's high in carbs, moderate in protein, and low in fat, says Larson. Postrun, go for a bar that's high in carbs and protein.

1992 ENERGY GELS

Back in the day, runners filched honey packets to suck on during races for a quick hit of sugar. By the late '80s, gooey formulations from the U.K. and New Zealand became popular among Ironman competitors. But it wasn't until 1992, when GU debuted, that gels really took off. GU founder Bill Vaughan, a runner himself, sought a portable fuel that would release its energy faster than existing bars. His blend of complex and simple sugars with amino acids (the building blocks of protein) gave endurance runners a turbo boost. But in some cases, the high sugar concentration also led to indigestion, which triggered GI panic.

TODAY'S TAKE Gels are easy to carry on long runs and have the perfect amount of calories and carbs. Take with water to help dilute the sugar concentration, says exercise physiologist and marathon coach Patti Finke.

2006 CHOCOLATE MILK

Amid the proliferation of formulated nutrition, researchers delivered some surprising news: Cow's milk offered the ideal recovery formula, especially if it included a little chocolate syrup. The research (from the *International Journal of Sport Nutrition and Exercise Metabolism*) found that protein-rich chocolate milk was better at promoting recovery than Gatorade. The news made runners' guilty pleasure seem like a superfood, and it suggested that whole foods could be just as beneficial as lab creations. Chocolate milk not only has the 4:1 ratio of carbs to protein that's optimal for recovery, but it's cheap, hydrating (providing fluids and electrolytes), and tasty.

TODAY'S TAKE Subsequent studies have confirmed this classic drink: It replenishes carb stores and repairs muscles. Aim for eight ounces within 30 minutes postrun.

2012 BEEF JERKY

Runners' growing preference for unprocessed foods—and an urge to clean up after our 20-year sugar bender—helped launch the Paleo diet and other low-carb eating strategies into popularity. Sports foods and drinks started including various amounts of protein, and runners took to snacking on beef and bison.

TODAY'S TAKE "While we're not as dependent on carbs as we once thought, midrun protein can cause GI distress," says Larson. What recent science has confirmed is that protein is most beneficial when it's distributed throughout the day, rather than concentrated in one dose. Follow a recovery meal with a jerky snack several hours later. Or after a long run or marathon, eat two or more protein-rich meals. "The recovery process after hard efforts lasts for 24 to 48 hours," says Larson.

Oops! Not for Consumption

AREN'T YOU GLAD YOU NEVER TOOK THIS ADVICE?



1809 Captain Barclay Allardyce, a long-distance trekker (precursor to today's trail runner), told athletes to eat mainly meat (beef and mutton) and to avoid liquids as much as possible—except for liquor (if served cold) and beer (if home-brewed and unbottled)—during their events.



1902 Middle-distance runner E.C. Bredin deemed toast a better fuel than bread.



1950s Per coaches' advice, Australian sprinter Shirley Strickland shunned soft foods and fluids the day before and on race day. After competition, she'd guzzle as much as a gallon of water.



1985 Nathan Pritikin's book, *Diet for Runners*, touted a high-carb diet (80 percent of total calories). Runners took that to mean carbs plus fat, like cake and ice cream.



2010 Energy drinks were advertised to have the same benefits as sports drinks. Scientific research said no way.

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