PowerBar POWER TO PUSH™

PowerBar Playbook Series | Canada Version

SPORTS NUTRITION FOR DISTANCE RUNNING

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The course is 42.2 km (26.2 miles) — a marathon. It winds through city streets, up and over a steep hill, down to the ocean, and then back. You've trained for this event for several months. You're at the starting line now, waiting for the pop of the starter's gun, going over in your mind each detail of the race strategy — how fast to go out, how much to expend on the hill, and the kick at the finish.

PowerBar® Team Elite athlete
KARA GOUCHER

PHOTO BY: JEAN-PIERRE GARY

Now fast-forward to kilometre 30. You made the turn at the beach and are a good way into the long ascent back towards downtown. You're well aware that there's still a punishing hill between you and your goal. This is where the race beat you last time. Tired, cramping, and dehydrated, you imploded on the hill, and it was all you could do to drag yourself across that finish line.

If you're a distance runner, you probably have a story like this. Maybe it was a half marathon, or a shorter distance event, in unanticipated hot and humid conditions, or an ultraendurance event. There are some physical challenges where if you don't have a fine-tuned race-day strategy, the course will swallow you up and spit you out. The fact is that distance running is one of those extreme challenges that puts your body, your training, and your gear to the test. Sports nutrition can make the difference between barely finishing a race and finishing strong.

THE PHYSICAL CHALLENGE

Distance runners train for and compete in a variety of race lengths, with the most common being 5–10 km (3.1 to 6.2 miles), half marathons of 21.1 km (13.1 miles), and full marathons of 42.2 km (26.2 miles). If you're a recreational runner, you might log 50 km (30 miles) per week in training. Your events are often club races, fun runs, and maybe a half marathon or marathon every year or so. Elite distance runners log more kilometres, with training workouts once or even twice daily. These workouts might include long runs, track sessions, water running, and strength training.

Running seems simple enough. Just strap on a pair of shoes and go. But running long distances at a strenuous pace puts an incredible strain on your body. Contracting leg muscles are rapidly burning fuel and generating internal body heat. And that's in comfortable weather conditions. Add heat or humidity to the mix, and the physical and metabolic toll rises incrementally. If you want to maintain your

running pace and achieve a strong finish, you have to stay hydrated and fueled. You can extend your endurance and keep fatigue at bay by having a well-conceived and practiced performance sports nutrition plan.

PowerBar® Team Elite athlete
FELIPE BASTOS

PHOTO BY: LELAND BLACK

KEY PRINCIPLES OF SPORTS NUTRITION

The three most important principles of a sports nutrition strategy for distance running are to hydrate, to provide fuel for your muscles, and to promote optimal recovery after training or racing. Applying these principles correctly can help maximize the gains from your training and help ensure that you run your best race.

HYDRATION

One of the single largest contributors to fatigue when training or racing is dehydration. Your ability to pound the pavement is driven by contracting muscles that generate heat. This heat must be dissipated quickly to avoid overheating. Sweating is a crucial mechanism for thermoregulation, or ridding your body of heat, but it also causes you to lose fluid and the electrolyte sodium that you need in order to remain hydrated. Dehydration impacts your running performance when you just lose 2% of your body weight due to fluid loss. For a 150-lb (68-kg) runner, a 2% weight loss equates to just about 1.4 kg (3 lbs). Distance running, especially in heat or humidity, can easily result in fluid losses exceeding this 2% threshold.

To avoid dehydration, you need to replace the fluids and sodium you lose from sweating.

And when you're dehydrated, your heart has to work harder and your internal body temperature is elevated. This makes every stride that much harder. The all-too-frequent results are a slow pace and a disappointing finish. Dehydration also poses serious adverse health consequences. To avoid dehydration, you need to replace the fluids and sodium you lose from sweating.

You might think that thirst will drive you to consume enough fluids to meet your hydration needs, but in fact, thirst during exercise doesn't kick in until well after you're dehydrated and already suffering the effects. The other side of the hydration coin is hyponatremia, or too little sodium in your blood. This can be caused by consuming too much water during exercise. And it, too, can hamper athletic performance and adversely affect your health. Fortunately, both dehydration and overhydration can be avoided. The trick is to stick to a disciplined hydration plan before, during, and after running.

FUELING

PowerBar® Team Elite athlete
JOSH COX

PHOTO BY: JOHN SEGESTA

Your training might involve high-volume aerobic conditioning, race-pace workouts, pace training, speed work, weightlifting, or some combination of these. Your primary muscle fuels during training, as well as when you're competing, are a combination of fat and carbohydrates. Even the leanest distance runners have plenty of fat reserves tucked away. Carbohydrate fuel stores are a different matter entirely. At best, you probably have only about 2,000 calories of carbohydrate fuel on reserve. These carbs are present in your body in two forms. Glucose circulates in your bloodstream, and bundles of glucose called glycogen are stored in your liver and muscles. A single long-distance run can nearly wipe out carbohydrate fuel reserves. In addition, back-to-back shorter workouts can also rapidly deplete muscle glycogen reserves if they aren't promptly replenished after each workout. As these fuel stores run down during exercise, you use liver glycogen reserves to maintain your blood glucose level. But once liver glycogen stores are tapped, your blood sugar level drops, fatigue sets in, and you hit the wall. Imagine running kilometres 1 through 30 of a marathon at your usual pace with a steady heart rate — you're feeling good. But unfortunately, you're about to burn through your muscle glycogen reserves. And as those fuel reserves hit empty, your pace steadily slows to the point that you need to slow down to a walk and can barely finish your last kilometre. Such are the effects of running out of glycogen. When your high-performance carbohydrate fuel runs out, you're left to burn fat as your primary muscle fuel source, and fat simply can't keep up with the energy demands of a race pace. The point is that it's crucial that you start your workouts and distance events with your carbohydrate fuel reserves fully replenished. And to extend endurance and delay the onset of fatigue during long runs, it's important to refuel with carbs while running.

PowerBar® Energy Bites™

RECOVERY

PowerBar® Recovery bar

Training and competing not only deplete your glycogen reserves, they also cause damage to muscle fibers, which require repair. If you are also weight training, your muscle tissue is being stimulated to increase as an adaptation to the increased workload. Finally, you also lose fluids and the key electrolyte sodium due to sweating during exercise. Recovery is the process of reloading depleted carbohydrate fuel stores, repairing and building new muscle tissue, and rehydrating after exercise. It's during the recovery process that you achieve the gains from your training and get ready for your next workout or race. Your body is ready to begin recovery as soon as you finish working out or competing, but the process doesn't begin in earnest until you provide the key nutritional components.

PRACTICAL SPORTS NUTRITION STRATEGIES FOR DISTANCE RUNNING

Fortunately, there are easy-to-implement sports nutrition strategies that can help you prepare for and remain strong throughout your workouts and races, and also help ensure that you fully recover afterwards so you're ready for your next training session or competition.

PowerBar® Team Elite athlete
AMY PALMIERO-WINTERS

PHOTO BY: MICHELLO PACHULLO

1. START FULLY HYDRATED

If you go into workouts fully hydrated, you'll be able to train harder and realize better gains. The same goes for distance events themselves — you'll be better able to sustain your race pace and achieve that personal best.

Make up for any previously incurred fluid deficits by consuming 400–600 ml (14–20 fl oz) of water or sports drink 2–3 hours before your race or workout. Keep hydrating by drinking another 240 ml (8 fl oz) prior to a workout or as you're warming up before a race, especially if conditions are hot or humid.

Ironman PERFORM™ sports drink mix

You can monitor your hydration status before exercise by checking the colour of your urine. A light-yellow colour is consistent with adequate hydration. If your urine is darker, more like the colour of apple juice, that's typically a sign that more fluids are needed before you start pounding the pavement.

2. START FULLY FUELED

As a distance runner, your glycogen stores are being depleted with each workout or competition. This demands that you fully replenish your carbohydrate fuel stores on a daily basis. If you don't, you'll rapidly run out of carbohydrate fuel, and workouts and performances will suffer noticeably.

To top off muscle glycogen fuel stores before working out or competing, consume a pre-exercise meal 2–4 hours before exercise. The goal is to start exercise fully fueled and hydrated but also feeling comfortable. Choose familiar high-carbohydrate foods and beverages, and avoid slow-to-digest fatty and high-fiber foods prior to running. High-carb foods include pasta, rice, bread, cereal, vegetables, fruit, and sweetened dairy products such as flavoured yogurts and milks. Experiment during training to find the right foods and timing that work best for you.

PowerBar® Fruit Energize™ bar

If you get hungry before a race, make sure you have easy-to-digest, high-carbohydrate snacks on hand, such as a PowerBar® Sport Energy™ bar or PowerBar® Fruit Energize™ bar, and consume your snack along with fluids. The ideal time for a snack is about an hour before you run.

PowerBar® Sport Energy™ bar

If you get prerace jitters and typically don't feel like eating, or you experience gastrointestinal distress when running, don't skip eating entirely. Instead, try liquid carb sources in place of solids for your prerace meal. A fruit smoothie or a meal replacement drink is a good high-carbohydrate alternative.

Finally, don't forget to eat before morning workouts. If time is running short, try a fruit smoothie, a meal replacement drink, a PowerBar Sport Energy bar, PowerBar® Energy Gel, PowerBar® Gel Blasts™ Energy chews, or PowerBar® Energy Bites™ along with some water.

IDEAS FOR HIGH-CARBOHYDRATE PRE-EXERCISE MEALS (2–4 hours before running)
Cold or hot cereal with fruit or fruit juice and low-fat or skim milk
French toast or pancakes with maple or fruit syrup
Toast with jam or honey and low-fat yogurt
Breakfast burrito (scrambled eggs, salsa, and low-fat cheese in a flour tortilla) and fruit juice
Bagel or English muffin with jelly and/or peanut butter, banana, and fruit juice
Pasta or cheese ravioli with low-fat, tomato-based sauce; French bread or low-fat breadsticks; steamed vegetables; low-fat/skim milk; pudding snack; canned fruit
Grilled chicken sandwich with frozen low-fat yogurt, baked potato with low-fat sour cream or salsa
Turkey sub sandwich with tomato, lettuce, and mustard; baked chips; fruit juice; low-fat frozen yogurt
A slice of thick-crust cheese pizza, low-fat gelato, and canned peaches
Baked or grilled lean beef, chicken, turkey, or fish; steamed rice; dinner roll; cooked green beans; low-fat frozen yogurt; fruit juice

PowerBar® Team Elite athlete
COLLEEN DE REUCK

PHOTO BY: FRANK X. WILSON

IDEAS FOR HIGH-CARBOHYDRATE SNACKS
(30 minutes to 1 hour before running)

- Fruit smoothie made with mango/banana/berries and low-fat or skim milk or yogurt
- Fruit or vegetable juice
- Half of a plain bagel
- Small roll or sandwich made with banana and honey
- Low-fat or nonfat yogurt, or fat-free frozen yogurt, gelato, or sorbet
- PowerBar® Fruit Energize™ bar
- PowerBar® Sport Energy™ bar
- PowerBar® Energy Gel
- PowerBar® Gel Blasts™ Energy chews
- Ironman PERFORM™ sports drink

3. REHYDRATING AND REFUELING WHILE RUNNING

For distance runs lasting less than 1 hour, your existing fuel stores should tide you over. Therefore, your focus can be on staying hydrated. In races that are less than 10–15 km (6.2 to 9.3 miles) in cool conditions, elite runners might not need to hydrate during the race and might not want to sacrifice any time. As distance, temperature, or humidity increases, the need for fluids increases as well. To stay hydrated in these circumstances, it is the consensus recommendation of authorities such as the American College of Sports Medicine that athletes consume fluids at a rate that closely matches sweat rate. This generally requires something on the order of 400–800 ml (13–26 fl oz) every hour of exercise, preferably in smaller amounts taken frequently, such as 100–200 ml (3–7 fl oz) every 15 minutes. However, fluid needs can vary considerably based on factors such as body size, pace, and weather conditions. Therefore, you might want to calculate your sweat rate for the various conditions in which you train and compete. Calculating your sweat rate is really quite simple. For a step-by-step guide to calculating your sweat rate and to obtain a personalized plan to meet your unique hydration needs, use the PowerBar® Sweat Rate Calculator at www.powerbar.ca/src.

PowerBar® Gel Blasts™ Energy chews

Ironman PERFORM™ sports drink

Glycogen depletion leads to heavy legs, and low blood sugar leads to fatigue. Avoid both by initiating the refueling and rehydrating process early in a race; don't wait for your glycogen stores to run dry or your blood sugar to drop. You should consume 30–60 grams of carbs per hour for exercise lasting 1–2 hours, or 45–90 grams of carbs per hour for exercise lasting more than 2 hours.

Water vs. Sports Drinks

Water is usually fine for short workouts or runs (e.g., less than an hour) in cooler weather. However, for intense workouts, long runs, and anytime you're exercising in the heat and humidity, a sports drink that provides carbohydrates, fluids, and sodium, such as Ironman PERFORM™ sports drink, is a much better option than water. The advantages are that a sports drink provides carbohydrates to help sustain your blood glucose levels, and the sodium and carbs support fluid absorption. Athletes also typically consume more fluids when their hydration beverage is flavoured, as is the case with a sports drink.

Have a hydration and fueling regimen on race day that you know works for you.

PowerBar© Energy Gel

Gels

A good option for rehydrating and refueling, especially in longer races, is to consume an energy gel and chase it with water. Make sure to select an energy gel that provides sodium along with carbohydrates, such as PowerBar Energy Gel. These gels are designed to be consumed every 20–45 minutes during exercise and they provide the carbohydrates and sodium of a high-end sports drink.

4. PRACTICE IT DURING TRAINING FIRST

There's no question that starting exercise fueled and hydrated, and rehydrating and refueling during exercise, are critical elements of a successful sports nutrition strategy. Experiment with the types and timing of foods and beverages during training. Make small adjustments to your regimen as needed, and trial-run those as well. The objective is to have a hydration and fueling regimen on race day that you know works for you given the conditions in which you'll be running.

PowerBar® Team Elite athlete
MEB KEFLEZIGHI

PHOTO BY: JOHN SEGESTA

5. ACTIVELY PROMOTE RAPID RECOVERY

As soon as you finish a race or training session, make recovery your first priority. The recovery stage is where you make the gains from your hard work and get ready for your next run. Your body is ready to start the recovery process just as soon as you finish exercise, but you need to provide the nutritional components, including carbohydrates to restore depleted glycogen stores, protein to repair and build muscle tissue, and fluids to effectively rehydrate.

Carbohydrates

To speed the reloading of your depleted muscle glycogen fuel stores, consume about 1.1 grams of carbohydrates per kg (0.5 grams per lb) body weight within 30 minutes of finishing exercise. You can repeat this in 2 hours, or transition to your usual high-carbohydrate snacks and meals. For a 68-kg (150-lb) distance runner, that equates to

about 75 grams of carbohydrates immediately after running and then again 2 hours later. You can also rapidly refuel by consuming smaller amounts of carbohydrates more frequently if that leaves you feeling more comfortable.

Intensity Level of Training	Daily Carbs Needed	Example for 68-kg (150-lb) Athlete
Low	5–7 grams per kg body weight (2.3–3.2 grams per lb)	345–480 grams of carbs daily
Moderate to Heavy	7–10 grams per kg body weight (3.2–4.5 grams per lb)	480–675 grams of carbs daily
Extremely Heavy	10–12 grams per kg body weight (4.5–5.5 grams per lb)	675–825 grams of carbs daily

PowerBar ProteinPlus® protein bar

Protein

Muscle tissue repair and building are other important facets of recovery. Muscle tissue contains protein, and protein is made up of building blocks known as amino acids. When you consume protein foods, the protein is digested and broken down into its component amino acids. These amino acids are then absorbed and repackaged into the proteins your body needs, including those required to repair and build muscle tissue. Although protein requirements can vary between individuals — for example, due to differences in body size or activity level — in general, try to consume a minimum of 15–25 grams of protein within an hour after your running workouts, to maximize the muscle rebuilding process.

PowerBar ProteinPlus® protein powder

Fluids and Sodium

Distance running can lead to heavy fluid and sodium losses due to sweating. Weigh yourself before and after exercise to gauge your net loss of fluids. Replace this fluid by gradually drinking about 1,000–1,500 ml of a sports drink, recovery beverage, or water for every kg (16–24 fl oz per lb) of weight lost. Consume sodium sources along with your fluids. Rehydration is supported when sodium is included with the fluid and food you consume as you recover. If your loss of fluids consistently exceeds 2% of your body weight, try to increase your fluid intake a bit to avoid dehydration. If you find that you actually gain weight during a workout or race, it's a sign that you've consumed too much fluid. This sometimes happens to slower runners who find themselves out on the course for hours at a time. To avoid overhydration, cut back a bit on your rate of fluid intake during exercise.

PowerBar ProteinPlus® protein powder is a fast and convenient option for jump-starting the recovery process. Just pour one scoop into your sports bottle, add 250 ml (8.5 fl oz) of water or milk, and shake. In seconds you'll have the protein and fluids to start reloading and repairing. So as soon as you cross that finish line, drink a PowerBar ProteinPlus powder beverage and get on the road to rapid recovery.

The following recovery options include at least 10 grams of protein and a moderate amount of carbohydrates to promote recovery.

RECOVERY OPTIONS

Food	Protein
2 oz pretzels dipped in 2 tbsp peanut butter	14 grams
Turkey sandwich with 2 oz turkey	20 grams
2 rice cakes with 2 oz low-fat cheese slices	16 grams
2 oz string cheese with 1 apple	14 grams
1 cup low-fat yogurt	11 grams
Low-fat chocolate milk – 300 ml (10 fl oz)	10 grams
PowerBar® Recovery bar	12 grams
PowerBar ProteinPlus® Bites™ – 1 pouch	20 grams
PowerBar ProteinPlus® protein bar	24 grams

PowerBar ProteinPlus® Bites™

6. KNOW YOUR EXTRA-ENERGY OPTIONS

Carbohydrate Loading

If you're going to be in a race that will require every last gram of muscle glycogen and more, carbohydrate loading — a technique where you taper your training one or more days before a race, while increasing your intake of carbs — might be right for you. Done correctly, the net result is a significant boost in your stores of muscle glycogen. That can translate to a performance benefit in races that are 21 km (15 miles) or longer. For more on effective carbohydrate loading, search Carbohydrate Loading at www.powerbar.ca.

PowerBar® Gel Blasts™ Energy chews

PowerBar® C2MAX™ Energy Blend for Faster Fueling

For typical endurance exercise of a couple of hours or less, the consensus recommendation for refueling with carbs is to consume 30–60 grams per hour of exercise. If your running challenge exceeds the 2-hour threshold and your pace is fast, you might benefit from a faster delivery of carbohydrate fuel to your working muscles. But just any carbs won't do. Research has shown that consuming a 2:1 ratio

of glucose to fructose during extended endurance exercise delivers more energy to your muscles — and better performance.

The combination is important because it takes advantage of the fact that your digestive tract has two separate transport systems, one each for the absorption of glucose and fructose. If you load up on just one carb source or the other, the transporters for that source fill up and you can't absorb the extra carbs. But by consuming both glucose and fructose, you utilize the dual-transport system and get the benefit of the extra fuel. PowerBar makes it easy to take advantage of this cutting-edge research with PowerBar C2MAX, which features the research-tested 2:1 ratio of glucose to fructose. You can find it in PowerBar® products that are designed to be used during exercise. The carbohydrates in products that contain PowerBar C2MAX can be taken in at the rate of up to 45–90 grams per hour during exercise. For more information on PowerBar C2MAX, go to www.powerbar.ca.

PowerBar® Energy Gel

Caffeine

Coffee is the world's most popular beverage, and its caffeine content is a major reason why. For many, a cup of coffee in the morning helps wake us up, and a second cup in the afternoon helps keep us going — a fact not lost on distance runners. Caffeine has been the subject of extensive research. It can boost performance in many athletes, including distance runners. The exact mechanisms are still being studied, but the benefit seems clear. Caffeine before or during endurance exercise can help reduce the perception of how hard you're working, so you might run faster and/or farther without feeling like you're working harder. However, you don't need tons of the stuff to get an effect, and some athletes are sensitive to caffeine and should avoid it. The more recently recommended dose for performance improvement is 1–3 mg caffeine per kg body weight (0.45–1.4 mg per lb). For a 68-kg (150-lb) athlete, that equates to about 70–210 mg. To learn more about using caffeine effectively, search Caffeine and Athletic Performance at www.powerbar.ca.

POWERBAR SPORTS NUTRITION FOR DISTANCE RUNNERS

Be your best when training or racing by being prepared nutritionally before you start to exercise. Know what to rehydrate and refuel with, and when, and what's needed afterwards to promote a full recovery. PowerBar sports nutrition products and tools can help you meet your hydration, fueling, and recovery needs.

DAILY NUTRITION TIPS

- Aim for a well-balanced diet with a variety of carbohydrates, lean protein, and healthful fats.
- Carbohydrates should be the focus of your meals.
- Drink up early: Every morning when you wake up, have a large glass of water.
- Keep up your energy levels: Eat 5–6 smaller meals per day.

Sports Nutrition Plan

	CARBS	PROTEIN	FLUID
BEFORE	• 2–4 hours before running, have a high-carb, low-fat, low-fibre meal • 30–60 minutes before running, have a high-carb snack (aim for 40–60 grams of carbs)	• 2–4 hours before running, have a moderate-protein meal	• Start hydrating 24 hours prior to running • Drink 400–600 ml of water or sports drink (14–20 fl oz) 2–3 hours before running • Drink another 240 ml (8 fl oz) prior to your run
DURING	• 30–60 grams of carbs per hour for runs lasting 1–2 hours OR • 45–90 grams of carbs per hour for runs >2 hours	• Not required	• Drink at least 400–800 ml (13–26 fl oz) per hour • Aim for 100–200 ml (3–7 fl oz) about every 15 minutes (1 gulp ≈ 30 ml, or 1 fl oz) • For runs >1 hour and when weather is hot and humid, use a sports drink with 500–800 mg sodium per 1 litre or 32 oz • Calculate your sweat rate: www.powerbar.ca/src
AFTER	• Within 30 minutes after running, have 1.1 grams of carbs per kg body weight (0.5 grams per lb) • Repeat within 2 hours of running, or transition to high-carb meal	• 15–25 grams as soon as possible after running	• Gradually drink 1,000–1,500 ml per kg (16–24 fl oz per lb) body weight lost
DAILY	• Low-intensity training: 5–7 grams of carbs per kg body weight (2.3–3.2 grams per lb) • Moderate- to heavy-intensity training: 7–10 grams of carbs per kg body weight (3.2–4.5 grams per lb) • Extremely heavy–intensity training: 10–12 grams of carbs per kg body weight (4.5–5.5 grams per lb)	• 1.4–1.7 grams per kg body weight (0.6–0.8 grams per lb)	• Hydrate continuously throughout the day

This food plan is intended to give general macronutrient and fluid guidelines while you are training and racing. It is not designed to be any particular caloric level. For a personalized daily food plan, use PowerBar® PowerCoach™ to determine your caloric needs and to obtain a daily sports nutrition plan just for you.

PRODUCT FEATURES AND BENEFITS

Canada Version

POWERBAR® PRODUCTS WORK BEST IN COMBINATION:
Mix and match products to meet your specific training and exercise needs.

		DESIGNED TO DELIVER BENEFITS TO ATHLETES	PROTEIN IN GRAMS	CARBS IN GRAMS	CONTAINS POWERBAR® C2MAX™ ENERGY BLEND	LOW SATURATED FAT (1 GRAM OR LESS)	0 GRAMS TRANS FAT PER SERVING	NO HIGH-FRUCTOSE CORN SYRUP	NO ARTIFICIAL FLAVOURS
BEFORE & DURING EXERCISE	1 BEFORE 2 DURING 3 AFTER								
	PowerBar® Fruit Energize™ bar	Delivers more energy to working muscles/ Easy to digest*	6g/bar	46g/bar	X	X	X	X	X
	PowerBar® Sport Energy™ bar	Delivers more energy to working muscles/ Easy to digest*	8–9.5g/ bar	40–43g/ bar	X	X	X	X	X
	PowerBar® Energy Gel	Delivers more energy to working muscles/ Easy to digest*†	0g–0.3g/ pack	27–28g/ pack	X	X	X	X	X
	PowerBar® Gel Blasts™ Energy chews	Fast energy	3g/pack	45g/pack	X	X	X	X	X
	Ironman PERFORM™ sports drink	Hydration/ fast energy	0g/ 591 ml (20 fl oz)	42g/ 591 ml (20 fl oz)	X	X	X	X	X
	Ironman PERFORM™ sports drink mix	Hydration/ fast energy	0g/ 500 ml (17 fl oz)	34g/ 500 ml (17 fl oz)	X	X	X	X	X
	PowerBar® Energy Bites™	Delivers more energy to working muscles/ Easy to digest*	11g/ pouch	58g/ pouch	X		X	X	X
	PowerBar® Harvest Energy™ bar	Long-lasting energy°	10g/bar	34–35g/ bar			X	X	X
	PowerBar® Triple Threat Energy™ bar	Long-lasting energy	10g/bar	27–28g/ bar			X	X	X
AFTER EXERCISE	1 BEFORE 2 DURING 3 AFTER								
STRENGTH 	PowerBar® Recovery bar	Supports muscle recovery	12g/bar	30g/bar			X	X	X
	PowerBar ProteinPlus® Bites™	Builds muscle ‡	20g/ pouch	38g/ pouch			X	X	X
	PowerBar ProteinPlus® protein bar	Builds muscle ‡	24g/bar	37–39g/ bar			X	X	X
	PowerBar ProteinPlus® protein powder	Builds muscle ‡	20g/ serving	7g/ serving		X	X	X	X

* PowerBar® C2MAX™ Energy blend is designed to have the same blend of energy sources found in breakthrough studies to deliver 20–55% more energy than glucose alone. In another study, these energy sources improved athletes' cycling times by 8%. (This study was done with a drink containing glucose alone vs. 2:1 glucose to fructose.)

† Some flavours contain caffeine. ° Only PowerBar® Harvest Energy™ bar double chocolate is dipped.
‡ Use PowerBar ProteinPlus® protein bars, Bites™, or protein powder before and/or after resistance or strength training, to help support muscle growth and repair.

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FOR MORE INFORMATION, VISIT: WWW.POWERBAR.CA.

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