

# SPORTS NUTRITION GUIDE

## U.S. VERSION

This guide will provide you with essential tools to optimize performance in all phases of athletic competition and training. It is part of the PowerBar Nutrition Coach Program. Find the complete series on PowerBar.com. Practice the following strategies in training so you have a trial-tested, reliable fueling plan for your competitions and big events.

## BEFORE TRAINING OR COMPETING:



### Start Hydrated

- Start hydrating 24 hours prior to exercise
- Check urine color: Lemonade color = well-hydrated; apple juice color = drink more fluid
- 2–3 hours before exercise: Drink 14–20 fl oz of water or sports drink (400–600 ml)
- During active warm-up: Drink another 8 fl oz (240 ml) — about 8 swallows/gulps

### What and When to Eat

- Focus on carbs; low-carb diets are NOT appropriate for athletes
- If you have more time before exercise (4 hours), eat more; if you have less time (2 hours), eat less to avoid stomach distress
- Eat a high-carb snack 30–60 minutes before exercise to top off fuel stores

## Carbohydrates

are the primary muscle fuel for most types of exercise

### 2–4 HOURS BEFORE TRAINING OR A COMPETITION

#### Recommended amount of carbs

2 hours: 0.9 x weight (lb) = \_\_\_\_\_ grams (A)

2.0 x weight (kg) = \_\_\_\_\_ grams (A)

OR

4 hours: 1.8 x weight (lb) = \_\_\_\_\_ grams (B)

4.0 x weight (kg) = \_\_\_\_\_ grams (B)

Meals should be high-carb, moderate protein, low-fat, and low-fiber

Choose foods and fluids that you are familiar with

#### High-carbohydrate, pre-exercise meals

Cold or hot cereal with low-fat or nonfat milk and fruit or fruit juice

French toast or pancakes with maple or fruit syrup

Toast with jam or honey, and low-fat yogurt

Breakfast burrito (scrambled eggs, salsa, and 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 veggies, low-fat/nonfat milk, pudding snack, and canned fruit

Turkey sub sandwich with tomato, lettuce, mustard, baked chips, fruit juice, and low-fat frozen yogurt

Thick-crust cheese pizza, low-fat gelato, and canned peaches

Baked or grilled chicken, turkey, lean beef, or fish, steamed rice, dinner roll, cooked green beans, low-fat frozen yogurt, and fruit juice

Information presented in this booklet is intended to impart general fitness, nutrition, and health information. Nestlé is not engaged in rendering medical advice or services. The information presented in this booklet is not intended for diagnostic or treatment purposes. You should consult your doctor for medical advice or services, including seeking advice prior to undertaking a new diet or exercise program. Advance consultation with your doctor is particularly important if you are under eighteen (18) years old, pregnant, breastfeeding, or have health problems. Never disregard professional medical advice or delay in seeking it because of something you have read in this booklet.

**30-60 MINUTES BEFORE TRAINING OR A COMPETITION TO TOP OFF FUEL STORES**

Recommended amount of carbs	
Aim for about 40-60 grams of carbohydrates	0.3 to 0.5 x weight (lb) = _____ grams (C) 0.7 to 1.1 x weight (kg) = _____ grams (C)
Quick-to-digest high-carbohydrate options	Carbs (g)
Fruit smoothie made with mango/banana/berries and low-fat or nonfat milk or yogurt (8 fl oz or 240 ml)	30-35 g
1 serving fresh fruit or 100% fruit juice (1 cup)	25-30 g
Low-fat or nonfat yogurt (6 fl oz or 180-ml container)	33 g
Fat-free frozen yogurt, gelato, or sorbet (1 cup)	45 g
PowerBar Performance Energy bar	44-46 g
PowerBar Fruit Smoothie Energy bar	43 g
PowerBar Gel	27 g
PowerBar Gel Blasts energy chews (1 pouch)	45 g
PowerBar Energy Bites (4 bites)	26 g
PowerBar Endurance sports drink (20 fl oz)	42 g

Try PowerBar Energy Bites or PowerBar Gel Blasts energy chews along with PowerBar Endurance sports drinks before and during exercise



PowerBar Energy Bites

**DURING TRAINING OR COMPETING:** 

**Stay Hydrated and Fueled**

**STAY IN YOUR HYDRATION ZONE:** Avoid losing more than 2% of your body weight

- Do this by drinking at least 13-26 fl oz (400-800 ml) of water or sports drink each hour
- However, consuming too much fluid during exercise can lead to overhydration or hyponatremia, which impairs performance and can have serious health consequences
- Calculate your sweat rate so that you know exactly how much fluid to consume during exercise; go to [www.powerbar.com/src](http://www.powerbar.com/src)

**CONSUME A SPORTS DRINK** with sodium when exercising for more than 1 hour or any time it is hot or humid

**REHYDRATE AND REFUEL THROUGHOUT EXERCISE**

- Be sure to get 30-60 grams of carbs per hour (for exercise lasting 1-2 hours) or 45-90 grams of carbs per hour (for exercise >2 hours) to help delay fatigue and improve performance
- Get your carbs from easy-to-digest sources such as sports drinks, gels, energy chews, and bites
- Consuming multiple sources of carbohydrates during exercise, such as a 2:1 blend of glucose to fructose (PowerBar C2MAX dual source energy blend), can improve performance\*

\*PowerBar C2MAX dual source energy blend is designed to have the same blend of energy sources found in breakthrough studies to deliver 20-55% more energy to muscles than glucose alone. In another study, these energy sources improved athletes' cycling times by 8%.

**THREE KEY PRINCIPLES OF SPORTS NUTRITION**

The three most important principles of a sports nutrition game plan are to **stay well-hydrated**, to **provide fuel** for your muscles, and to **provide optimal recovery** after training or competing. Apply these principles correctly and you can maximize the gains from your training and perform at your best!

**AFTER TRAINING OR COMPETING:**

**Recovery Starts as Soon as You Finish Exercising**

- To start your recovery, consume foods/fluids with carbs and protein within 30 minutes after exercise
- Sports drinks, energy/protein/recovery bars, gels, bites, and chews make convenient and portable recovery foods
- Be prepared — pack recovery foods in your sports bag

**CARBOHYDRATES TO REPLENISH MUSCLE FUEL STORES**

**CONSUME CARBS TO KICKSTART MUSCLE RECOVERY (ESPECIALLY IMPORTANT IF YOU ARE EXERCISING AGAIN WITHIN 24 HOURS):**

Recommended amount of carbs	
Within 30 minutes	0.5 x weight (lb) = _____ grams (D) 1.1 x weight (kg) = _____ grams (D)
<b>AND</b>	
Within 2 hours	Repeat same as above OR have a high-carb meal (D)
Recovery options	
Rolls or bagels	PowerBar Recovery beverage
Peanut-butter-and-jelly sandwiches	PowerBar Recovery bar
Salted pretzels	PowerBar ProteinPlus protein bar
Fresh and canned fruits, frozen fruit smoothies	PowerBar ProteinPlus Bites
String cheese and crackers	PowerBar Nut Naturals Energy bar
Low-fat chocolate milk	PowerBar Performance Energy bar

**Try** PowerBar Recovery beverage (16 fl oz = 40 g carbs, 6 g protein, 500 mg sodium), PowerBar ProteinPlus Bites (1 pouch = 34 g carbs, 20 g protein, 270 mg sodium) or PowerBar Recovery bar (1 bar = 30 g carbs, 12 g protein, 180 mg sodium)



PowerBar ProteinPlus Bites

**PROTEIN TO BUILD AND REPAIR MUSCLE TISSUE**

**AFTER ENDURANCE EXERCISE:** Consume 10–20 g of protein within 30 minutes

**FOR RESISTANCE TRAINING:** Protein intake just before and/or as soon as possible after exercise is essential for optimal recovery, including the growth and maintenance of muscle tissue

**FOR RESISTANCE TRAINING: CONSUME ABOUT 20-40 GRAMS OF PROTEIN AS SOON AS POSSIBLE JUST BEFORE AND/OR AFTER EXERCISE\***

One time (in one sitting)	20–40 grams just after exercise (E)
<b>OR</b>	
In two sittings	10–20 grams just before and 10–20 grams just after exercise (F)
<b>OR</b>	
In hourly intervals for up to 3 hours after exercise or until regular meals resume	5–10 grams just after exercise, and then 5–10 grams every hour for 3 hours (G)

\* Totals based on 0.18 grams per lb body weight (0.4 grams per kg)

**FLUIDS AND SODIUM TO REHYDRATE**

**AS SOON AS EXERCISE IS OVER,** grab your bottle of sports drink, recovery beverage, or water

Weigh yourself before and after exercise to gauge your net loss of fluids

**FOR EVERY LB LOST,** gradually drink 23 fl oz per lb (1,500 ml per kg weight lost)

**REHYDRATION** will be more effective when sodium is included in the fluids and foods you consume

**CONTINUE REHYDRATING** until urine is pale yellow like lemonade, not darker like apple juice

## HEALTHY EATING TIPS FOR ATHLETES:

**AIM FOR A WELL-BALANCED DIET** with a variety of whole grains, vegetables, and fruit; lean protein sources; and healthy fats

**FOR ENDURANCE ATHLETES**, 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 meals per day

**CONSUME MORE CARBS (AT THE HIGHER END OF THE RECOMMENDED RANGE)** on more intense training and competition days

TOTAL DAILY CARBOHYDRATE RANGE	TOTAL DAILY PROTEIN RANGE
2.3 to 4.5 x weight (lb) = _____ grams (H)	0.5 to 0.8 x weight (lb) = _____ grams (I)
5 to 10 x weight (kg) = _____ grams (H)	1.2 to 1.7 x weight (kg) = _____ grams (I)

## NUTRITION PLAN SUMMARY:

### PUTTING IT ALL TOGETHER (REFER TO LETTERS FROM PREVIOUS CHARTS)

	CARBS	PROTEIN	FLUID	COMMENTS
<b>BEFORE</b>	2–4 hrs: _____ (A or B) AND ≤ 1 hr: _____ (C)	Have a moderate-protein meal 2–4 hours before exercise  Resistance training: 10–20 g (F)	Start hydrating 24 hours prior to training or competition  Drink 14–20 fl oz of water or sports drink (400–600 ml) 2–3 hours before exercise	
<b>DURING</b>	30–60 grams of carbs per hour for exercise lasting 1–2 hours  OR 45–90 grams of carbs per hour for exercise >2 hours  Look for multiple carbohydrate sources, such as a 2:1 blend of glucose and fructose (PowerBar C2MAX dual source energy blend)*	Not required	Drink at least 13–26 fl oz (about 400–800 ml) per hour  Stay in your hydration zone: Avoid losing more than 2% of your body weight due to fluid loss; avoid gaining weight by overconsuming fluids  Use sports drinks with 500–800 mg sodium per 32 ounces or 1 liter	
<b>AFTER</b>	Within 30 mins: _____ (D) AND again Within 2 hrs: _____ (D)	Endurance exercise: 10–20 grams  Resistance training: 20–40 grams (E, F, or G)	Gradually drink 23 fl oz per lb of weight lost or 1,500 ml per kg weight lost	
<b>DAILY</b>	_____ grams/day (H)	_____ grams/day (I)	Hydrate continuously throughout the day	

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

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