

## **MARATHON TRAINING & NUTRITION PROGRAM**

ONE OF THE BIGGEST MISTAKES MOST PEOPLE MAKE DURING BEGINNER AND INTERMEDIATE LEVEL MARATHON TRAINING IS EATING TOO MUCH OF THE WRONG FOODS. For example, many runners eat too many high-fat foods and not enough carbohydrate. High-fat foods are more easily stored by the body and aren't available for immediate energy, whereas carbohydrates are easily accessed by the body soon after consumption. For this reason, carbohydrates are the best fuel for running, and as mileage increases so too does a runner's need for calories from carbs.<sup>1</sup> Likewise, as miles and training intensity increase, proper recovery becomes a critical element of nutrition—protein helps build and repair muscles for proper recovery.<sup>2</sup> Here are some general nutrition tips to keep in mind as you embark on marathon training:

## **EVERYDAY TRAINING**

- Throughout the 16-week training period, eat small, well-balanced meals every three to four hours. Healthy meals with a mixture of protein, carbohydrate, and fat are an essential foundation to your daily nutritional needs because they help distribute nutrients and energy to your body throughout the day. Regular meals are essential for consecutive days of smart training.
- If there is a 3–4 hour gap between your last meal and your planned workout, have a high-carbohydrate snack 1–2 hours before your run to ensure that you have energy to complete the workout.
- If you run early in the morning before breakfast, have an energy gel and some water to give your body some carbohydrates and hydration after the 8-hour fast from sleeping.
- Research shows that an endurance athlete's protein needs are greater than the current USDA's Dietary Reference Intake of 0.8g/kg of body weight per day. The protein needs of endurance athletes have been estimated to be in the range of 1.0–1.6g/kg of body weight per day.<sup>2</sup>
- Daily carbohydrate needs for the moderate endurance athlete have been estimated to be 5–7g/kg per day.<sup>3</sup>
- In the early weeks of training you should be eating from the higher end of the estimated intake range for protein and the lower end of the estimated carbohydrate range because your body isn't demanding as much carbohydrate during this time of lower mileage.
- In the later weeks of training, protein remains an important component in your post-long-run recovery, but overall your protein consumption will go to the lower end of the range and carbohydrate to the

higher end of the range because your body needs more energy for higher mileage runs.

- When training sessions begin lasting 1–2 hours at a time, you want to pay particular attention to what you eat 2–3 hours pre-workout, during workout, and after workout for recovery. A portion of your total recommended daily intake for carbohydrate and protein should be accounted for in pre-, during, and post-nutrition.
- Everyone sweats at a different rate, so broad fluid recommendations are difficult to estimate. The American College of Sports Medicine suggests a possible starting point for marathon intake: while running it should be 0.4–0.8 liters per hour.<sup>4</sup>

## LONG RUNS

- During long runs you need to eat and drink before, during, and after the run. Specifically, for runs longer than one hour you should consume 30–60 grams of carbohydrate per hour;<sup>5</sup> That is the equivalent of 1–2 CLIF SHOT<sup>®</sup> gels per hour. Long runs are also your best opportunity to practice how and what you will eat and drink on your race day—use long runs to figure out which foods and sports nutrition products you will use during your race, when you will consume them, and how you will carry them. Also, keep track of which foods and drinks feel good in your stomach while running and which do not—this will prevent mishaps on race day.
- In the training program, you will notice that some pre-workout/pre-race recommendations include fiber-rich foods. During training you are also training your gut. In the case of fiber, it is a good idea to train your gut to tolerate and process fiber for healthy digestion before your race.<sup>6</sup>

### RECOVERY

- > As miles and training intensity increases, so too does the importance of proper recovery.
- The "recovery window" starts the minute you finish your race or workout. Within the first 30 minutes there is an opportunity to kick-start your recovery because during this time the blood is still flowing at a faster rate than normal, so the body is capable of replenishing glycogen stores faster, thereby stimulating the repair of muscles damaged during exercise.<sup>7</sup> To take advantage of this recovery window, consume something that contains both carbohydrate and protein.<sup>8</sup> CLIF SHOT Protein Recovery Drink Mix contains whey—a quickly digestible protein—as well as carbohydrates and sodium to help your body restore, replenish, and rebuild after a workout.
- > Because recovery continues for another 24 hours, it is important to have a well-balanced meal within 2 hours after your race or workout.

## TAPERING

- > When your miles taper before the race, focus on maintaining the estimated daily intake of carbohydrates to ensure your storage of energy is packed full for the race—there is no need to "carbo-load" the night before if you maintain proper levels throughout the week prior to your race.
- > Decrease portion size of your meals and snacks to make sure not to overdo it since you are running fewer miles in these last weeks.

#### ESTIMATED DAILY INTAKE:

140 LB WOMAN Carbohydrate 318–382g/day; Protein 76–108g/day | 175 LB MAN Carbohydrate 398–477g/day; Protein 95–135g/day EXAMPLE: **Before** 1 banana, ½ CLIF<sup>®</sup> Bar **During** All you need is water for hydration: 6–8oz of water for every 15 minutes of exercise **After** Finish the other ½ of your CLIF Bar and some water for hydration

## WEEKS 1-4

During this lower mileage period, eat from the low end of the carbohydrate range and the high end of the protein range of the Estimated Daily Intake. Ensure adequate hydration by drinking 6–80z of water every 15 minutes during activity.

LONG RUN (WEEK 1): EXAMPLE: Before CLIF® Bar + water During Water After Water + small well-balanced meal within 2 hours after activity.

#### LONG RUNS (WEEKS 2-4):

	Before	During	After
140 LB WOMAN	Carbohydrate 63–126g Here are some options: > CLIF Bar + 8oz of CLIF SHOT Electrolyte Hydration Drink; or > ½ bagel w/ peanut butter + 8oz of apple juice	Carbohydrate 30–60g/hour + water Ex: 1–2 energy gels per hour + water	Carbohydrate 63–95g; Protein 10–20g Here are some options: > CLIF Builder's 20g protein bar + an apple; or > Turkey sandwich + 8oz of milk
175 LB MAN	Carbohydrate 77–154g Here's an option: > Whole bagel w/ peanut butter + 8oz of apple juice	Carbohydrate 30–60g/hour + water Ex: 1–2 energy gels per hour + water	Carbohydrate 79–119g; Protein 10–20g Here are some options: > Turkey sandwich, 8oz of milk + an orange; or > CLIF Builder's 20g protein bar + yogurt with granola

**XTRAIN and OFF DAYS:** To ensure you are ready for the next day: drink water, eat 3–4 small meals and 3 small snacks throughout the day to replenish energy and focus on variety and good nutrition.

WEEK	TOTAL	MON	TUE	W	THU	F	SAT	S
	MILES	RECOVERY	TEMPO		SPEED		LONG RUN	
1	20	4 miles	5 miles: 2-mile warm-up; 1 mile @ goal race pace; 2-mile cool-down	MILES	5 miles: 2-mile warm-up; 2 x 800m @ target pace; same rest; 2-mile cool-down	MILES	6 miles	٨٨
2	22	4 miles	5 miles: 2-mile warm-up; 1.5 miles @ goal race pace; 1.5-mile cool-down	AV/EASY	5 miles: 2-mile warm-up; 2 x 800m @ target pace; same rest; 2-mile cool-down	<b>AV/EASY</b>	8 miles	VOFF D
3	25	4 miles	6 miles: 2-mile warm-up; 2 miles @ goal race pace; 2-mile cool-down	N/OFF D	5 miles: 2-mile warm-up; 3 x 800m @ target pace; same rest; 1.5-mile cool-down	N/OFF D	10 miles	OVERY
4	22	3 miles	6 miles: 2-mile warm-up; 2 miles @ goal race pace; 2-mile cool-down	XTRAI	5 miles: 2-mile warm-up; 4 x 800m @ target pace; same rest; 1-mile cool-down	XTRAI	8 miles	REC



During weeks 5–8 mileage increases a lot—this will require more carbohydrates during training runs and in your daily diet. Eat from the middle of the Estimated Daily Intake range pre- and post-workout to ensure adequate energy as mileage begins to increase. EXAMPLE: **Before** Bowl of cereal w/ milk **During** CLIF SHOT energy gel and 16–24oz water **After** CLIF Bar

**SPEED WORKOUT DAYS:** Fuel up with CLIF SHOT energy gel so you have energy for these intense workouts but not a full stomach. Make sure to hydrate during rest. EXAMPLE: **Before** CLIF SHOT energy gel 30 minutes before **During** 6–80z water during rest. **After** Yogurt

LONC RUNS (WEEKS 5-8): EXAMPLE: Water + meal within 2 hours after activity.

	Before	During	After
140 LB WOMAN	Carbohydrate 63–126g Here're some options: <ul> <li>1 cup of oatmeal w/ honey + raisins; or</li> <li>16oz CLIF SHOT Electrolyte Hydration Drink + 1 CLIF Bar</li> </ul>	Carbohydrate 30–60g/hour + water Ex: 1–2 energy gels per hour + water	Carbohydrate 63–95g; Protein 10–20g Here are some options: > CLIF Bar + 8oz of chocolate milk; or > Turkey sandwich + yogurt
175 LB MAN	Carbohydrate 77–154g Here are some options: > 3 pancakes w/ syrup; or > 20oz CLIF SHOT Electrolyte Hydration Drink + 2 slices of toast with jam	Carbohydrate 30–60 g/hour + water Ex: 1–2 energy gels per hour + water	Carbohydrate 79–119g; Protein 10–20g Here are some options: <ul> <li>CLIF Builder's 20g protein bar + 16oz of juice; or</li> <li>Large bean and cheese burrito + 16oz CLIF SHOT Electrolyte Hydration Drink</li> </ul>

**XTRAIN and OFF DAYS:** To ensure you are ready for the next day: drink water, eat 3–4 small meals and 3 small snacks throughout the day to replenish energy and focus on variety and good nutrition.

WEEK	TOTAL	MON	TUE	W	THU	F	SAT	S
	MILES	RECOVERY	TEMPO		SPEED		LONG RUN	
5	30	6 miles	7 miles: 2-mile warm-up; 3 miles @ goal race pace; 2-mile cool-down	MILES	5 miles: 2-mile warm-up; 4 x 800m @ target pace; same rest; 1-mile cool-down	MILES	12 miles	AV
6	30	4 miles	7 miles: 2-mile warm-up; 3 miles @ goal race pace; 2-mile cool-down	AV/EASY	5 miles: 1-mile warm-up; 5 x 800m @ target pace; same rest; 1.5-mile cool-down	AV/EASY	14 miles	/OFF D
7	25	4 miles	6 miles: 1-mile warm-up; 4 miles @ goal race pace; 1-mile cool-down	N/OFF D	5 miles: 1-mile warm-up; 6 x 800m @ target pace; same rest; 1-mile cool-down	N/OFF D	10 miles	<b>:OVERV</b>
8	32	5 miles	7 miles: 2-mile warm-up; 4 miles @ goal race pace; 1-mile cool-down	XTRAI	5 miles: 1-mile warm-up; 6 x 800m @ target pace; same rest; 1-mile cool-down	XTRAI	15 miles	REC

# WEEKS 9-12

Your miles are increasing, so should your calories. To support higher mileage, aim for the middle of the protein range and the high end of the carbohydrate range of the Estimated Daily Intake. Weekly workouts will require more nutritional support pre- and post-run to ensure that:

- > You don't get hungry during the run and you remain energized.
- > You recover properly from the increased intensity and longer duration of exercise.

Hydration is critical for longer mileage, drink to thirst and try to minimize weight loss, which is primarily fluid loss, during workouts.<sup>4</sup>

**SPEED WORKOUT DAYS:** Continue to fuel up with energy gel so you have energy for these intense workouts but not a full stomach. Make sure to hydrate during rest.



**XTRAIN and OFF DAYS:** To ensure you are ready for the next day: drink water, eat 3–4 small meals and 3 small snacks throughout the day to replenish energy and focus on variety and good nutrition.

**WEEK 12**—**RECOVERY WEEK:** Week 12 is a recovery week with less mileage. For this week you should reduce your overall caloric intake since you won't be burning as much energy. This week's plan is similar to your nutritional plan from weeks 1–4.

#### LONG RUNS (WEEKS 9-12): Water and meal within 2 hours.

	Before	During	After
140 LB WOMAN	Carbohydrate 63–126g Here are some options: > LUNA Bar + banana + 16oz CLIF SHOT Electrolyte Hydration Drink; or > 2 cups cornflakes w/ milk + 16oz CLIF SHOT Electrolyte Hydration Drink	Carbohydrate 30–60g/hour + water Ex: 1–2 energy gels per hour + water	Carbohydrate 63–95g; Protein 10–20g Here are some options: > Sunflower butter + jelly sandwich + 8oz of grape juice; or > 1 cup granola w/yogurt
175 LB MAN	Carbohydrate 77–154g Here are some options: CLIF Bar & banana + 16oz CLIF SHOT Electrolyte Hydration Drink; or 2 cups oatmeal, with fruit and milk	Carbohydrate 30–60g/hour + water Ex: 1–2 energy gels per hour + water	Carbohydrate 79–119g; Protein 10–20g Here are some options: > 20oz CLIF SHOT Protein Recovery drink + 1 CLIF Bar > Sunflower butter and jelly sandwich + 16oz of grape juice

WEEK	TOTAL	MON	TUE	W	THU	F	SAT	S
	MILES	RECOVERY	TEMPO		SPEED		LONG RUN	
9	35	5 miles	8 miles: 2-mile warm-up; 5 miles @ goal race pace; 1-mile cool-down	MILES	5.5 miles: 1-mile warm-up; 7 x 800m @ target pace; same rest; 1-mile cool-down	MILES	17 miles	AV
10	31	3 miles	10 miles: 2-mile warm-up; 7 miles @ goal race pace; 1-mile cool-down	AV/EASY	6 miles: 1-mile warm-up; 8 x 800m @ target pace; same rest; 1-mile cool-down	AV/EASY	12 miles	/OFF D
11	40	5 miles	10 miles: 2-mile warm-up; 7 miles @ goal race pace; 1-mile cool-down	N/OFF D	6 miles: 1-mile warm-up; 8 x 800m @ target pace; same rest; 1-mile cool-down	N/OFF D	19 miles	OVERY
12	25	5 miles	5 miles: 1-mile warm-up; 3 mile @ goal race pace; 1-mile cool-down	XTRAII	5 miles: 2-mile warm-up; 2 x 800m @ target pace; same rest; 2-mile cool-down	XTRAII	10 miles	REC

## WEEKS 13-16

**WEEK 13:** Mileage cranks back up this week. To support the increased distance and intensity, eat from the mid-high end of the protein range of the Estimated Daily Intake, and the high end of the carbohydrate range.

By this point, you have learned what your individual nutritional needs are pre-, during, and post-workout based on previous weeks. During these last weeks, train with the nutritional combinations that serve you best. And, begin to chart a nutritional plan for race day. Again, hydration is critical for longer mileage; drink water or a hydration beverage to quench your thirst and equalize your sweat loss.

**WEEK 14–15**: In weeks 14 and 15 you will focus your daily nutrition on recovering from your weeks of training while also replenishing your body to ensure that you have a "full tank" of energy for race day. During these last 2 weeks, focus on eating from the high end carbohydrate range of the Estimated Daily Intake and the middle range of protein of the Estimated Daily Intake.

#### TEMPO:

**WEEK 15**: Determine which products you will be using during your race, where and how you will carry them, and when you will take them. Then practice during your training runs. Your tempo run during week 15 is a good time to fine-tune your race day routine and nutrition. Also, test your clothes: what shorts will you be wearing? Where will you put your energy gels? Will you be wearing a hat? What about sunglasses? Test all these things out during this run, while you still have time to make changes.

WEEK 16: To prepare for race day, eat from the low end of the protein range of the Estimated Daily Intake, and the high end of the carbohydrate range.



#### LONG RUNS: Water & meal within 2 hours after activity.

	Before	During	After
140 LB WOMAN	Carbohydrate 63–126g Here's an option: > 20oz CLIF SHOT Electrolyte Hydration Drink + 1 cup of oatmeal with banana	Carbohydrate 30–60g/hour + water Ex: 1–2 energy gels per hour + water	Carbohydrate 63–95g; Protein 10–20g Here are some options: > Yogurt + fruit smoothie; or > 20oz CLIF SHOT Protein Recovery Drink & a CLIF Bar
175 LB MAN	Carbohydrate 77–154g Here's an option: <ul> <li>2 pieces of toast with jelly + a piece of fruit</li> </ul>	Carbohydrate 30–60g/hour + water Ex: 1–2 energy gels per hour + water	Carbohydrate 79–119g; Protein 10–20g Here are some options: > CLIF Builder's 20g protein bar + chocolate milk; or > Chocolate milk, turkey sandwich + pretzels

**XTRAIN and OFF DAYS:** To ensure you are ready for the next day: drink water, eat 3–4 small meals and 3 small snacks throughout the day to replenish energy and focus on variety and good nutrition.

WEEK	WEEK TOTAL	MON	TUE	W	THU	F	SAT	S
	MILES	RECOVERY	TEMPO		SPEED		LONG RUN	
13	40	4 miles	10 miles: 1-mile warm-up; 8 miles @ goal race pace; 1-mile cool-down	MILES	5 miles: off or easy 5 miles with 5 x 60-second pickup	MILES	21 miles	F DAV
14	32.5	4 miles	8 miles: 2-mile warm-up; 4 miles @ goal race pace; 2-mile cool-down	AV/EASY	6.5 miles: 1-mile warm-up; 10 x 800m @ target pace; same rest; 5-mile cool-down	AV/EASY	14 miles	/ERV/OF
15	25	4 miles	7 miles: 2-mile warm-up; 3 miles @ goal race pace; 2-mile cool-down	N/OFF D	4 miles: 1-mile warm-up; 4 x 800m @ target pace; same rest; 1-mile cool-down	N/OFF D/	10 miles	RECOV
16	12	OFF	4 miles: 1-mile warm-up; 2 mile @ goal race pace; 1-mile cool-down	XTRAI	4 miles: easy 4 miles with 4 x 60-second pickup	XTRAI	Shakeout run of 3K–5K, very easy	RACE DAY!

**COOL-DOWN** See easy miles.

**CROSS-TRAIN (XTRAIN)** Swim, bike, or do something besides run. Maintain an easy to moderate effort and keep the workouts short (no more than an hour).

EASY MILES This is a comfortable, conversational pace that's best for short recovery runs; long, slow runs; and warm-ups and cool-downs.

LONG RUN Maintain a conversational pace—around one minute slower than marathon goal pace.

**SAME REST** An equal amount of time of slow jogging to recover between each faster repeat. For example, if it takes you 4 minutes to run the 800m repeat, slow jog for 4 minutes before the next 800m repeat.

**SPEED** Also known as intervals, these workouts are faster stretches of running, alternating with periods of easy jogging. Pace can vary from sprinting to marathon effort. Always start with a warm-up and end with a cool-down.

TEMPO This is an even-paced, moderately hard effort. The distances shown include a 2-mile easy warm-up jog and 2-mile cool-down.

WARM-UP See easy miles.

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