



The Running Guru Runner's Training Guide

V.2.0

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Introduction

Welcome to the Runner's Training Guide as put together by the training experts at Running Guru! It is our goal to provide education, training programs, and nutritional solutions to you in order that you can achieve your fitness goal, whether it be to walk a 10k or complete a marathon in under three hours.

Nutrition is perhaps the most important aspect of effective training, after the training itself of course. If your body cannot recover, if you have low energy levels, if you have chronic minor pain or acute injury, all of these impediments can be improved and even prevented through proper nutrition. It is the goal of Running Guru to give you the knowledge and supplements to maximize your training and ensure you are not held back by anything related to nutrition.

This guide provides training programs for distances from 10k to a full marathon. Each program is for different experience levels from beginners to experienced athletes. We provide information on selecting the right gear, proper diet and nutrition, and supplement programs that keep you healthy. The fact that you are reading this guide means that you have taken the first step to improve your training and want to learn more.

How Do I Get Started?

Well, the fact that you're reading this guide means you've already taken the first step to beginning your program. We've laid out a three step program that will guide you through your training and prepare you for that ultimate goal of completing the race for which you are preparing. The steps that we recommend are given below, and each of these steps is discussed in detail in a following section.

We also include general training tips, a pace calculator, and a frequently asked questions section to further help you with your training.

3 Step Endurance Training Guide

- Step 1: Select Your Training Program
- Step 2: Get the Appropriate Gear
- Step 3: Adequately Nourish Your Body

So without further delay, turn the page and let's get started on preparing you for accomplishing your running goal!

Step 1: Select Your Training Program

The first step in running any distance is having a plan. Running a 10k, half- or full marathon is no simple task, and like many other lofty goals, requires a detailed plan to get you from point A to point B and best prepare you for race day.

We've prepared a variety of programs for various levels. These are our recommendations based on years of experience and provide an excellent roadmap to helping you train. However, depending on your current fitness level, you are certainly welcome to modify these programs to fit your schedule and goals.

We've designed the following training programs for the given experience levels:

<u>Race distance</u>	<u>Experience Level</u>
• 10k	Non-runner
• Half-marathon	Beginner
• Marathon	Intermediate

We offer a short description of the type of person for which each program is designed to help you decide which training program to select. To determine which program is best for you, please select the category that best fits your current activity level and desired goal. We do not provide training programs for advanced or elite runners, as they typically have their own programs. However, we have defined nutritional supplement programs for elite runners to match the training demands placed on their bodies (refer to the Supplement section later in this guide).

<u>Running experience</u>	<u>Suggested Program</u>
1. Never run before, just want to complete the race	Non-runner
2. Done minimal running, less than 25 miles per week, and want to complete the race and perhaps finish in a specific time	Beginner
3. Have done some running, around 25-50 miles per Week, and want to take my training to the next level	Intermediate

Overview of Training Programs

While building cardiovascular strength and stamina is important, equally as important is conditioning your body (especially your joints) to the jarring and pounding present in distance running. It is critically important that you be patient and follow the program in order to minimize your chances of injury. There is always a temptation to increase mileage or go a little faster, but until you complete your first race and understand the capabilities of your body, we strongly recommend that you remain on the conservative side and don't risk pushing yourself to injury.

With this said, however, we fully understand that the training program may change based on your busy schedule and other factors. Don't be afraid to slightly adjust the mileage or exchange days, just listen to your body and recognize when you may need a little extra rest or more recovery time. As a general rule, try and stay consistent with the weekly miles and get at least one long run/walk in per week.

The key to your progress is increasing your mileage each week and the cumulative minutes you are able to run without stopping. While it's perfectly OK to stop if you become out of breath or exhausted, we recommend you manage your pace so as to avoid stopping too often. Also, as your training progresses, your running becomes more refined and efficient, which translates into a faster pace. The key is to gradually build up your cardiovascular, muscular, and skeletal systems without causing injury.

Running Tip: Your running pace should allow you to breathe easily without too much straining or gasping. Run relaxed, and you should be able to talk in complete sentences without gasping for air. Huffing and puffing usually indicates you're going too fast and need to slow down. Many runners use what are called heart rate monitors which help measure the overall load and stress on your body. If interested in one of these monitors, consult the specialist at your local running store.

Beginner 10k Program

You may be a weekend athlete or do some aerobic training a few times a week, but you've never before run a full 10k (6.2 miles). This program is designed for someone like you, someone that has done some cardiovascular training but never focused on an organized run like a 10k. Our advice is to follow the training program as best you can and make sure to put in the miles each week, whether it's outside or on the treadmill (later in the Training FAQs section we discuss training on a treadmill).

Week #	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1	Rest	1	2	1	Rest	2	3
2	Rest	1	3	1	Rest	2	4
3	Rest	2	3	2	Rest	3	4
4	Rest	2	3	2	Rest	3	5
5	Rest	3	4	3	Rest	4	6
6	Rest	4	2	3	Rest	0	Race

* All values are in miles

Intermediate 10k Program

You've probably done a 10k before and maybe it's been awhile or you want to take your training to the next level or try and break your personal record. This program pushes you a bit and will help you with your goal. We do not specify per mile times, we leave this up to you to adjust your pace according to your goal and physical ability. It is recommend that once a week or so you try some interval training to increase your VO2 max (maximum oxygen utilization) and improve leg strength, both of which will make you faster and decrease your overall race time.

Week #	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1	3	3x400	3	3 tempo	Rest	3	5
2	3	4x400	3	3 tempo	Rest	3	7
3	3	5x400	2	3 tempo	Rest	4	8
4	3	6x400	3	3 tempo	Rest	4	8
5	3	6x400	3	3 tempo	Rest	4	8
6	2	6x400	2	3 tempo	Rest	6	Race

* All values are in miles

Tuesday is for interval training and should be done on a track if possible. For example, 3x400 means you will run a 400 yard interval a total of three times. You should run at around 80-90% top speed and walk a half a lap in between intervals. This type of training will greatly increase leg strength and maximum oxygen utilization.

Half Marathon Training Programs

Non-Runner Half-Marathon Program

This program is designed for the person that has never run a step in their life. It enables you to become a runner and complete your first half marathon in a matter of only 16 weeks. While this program is designed for the person that has never run before, you can certainly tailor it to your specific fitness level and even adjust it as your training progresses. If you're just getting into cardiovascular training, we strongly recommend that you begin the first week with brisk walking and proceed through the program we've defined.

If you are already a runner or have run in the past and want to begin week one of your program with running rather than walking, we recommend the Beginning Training Program in the next section.

Week #	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday				
		Walk	Run	Walk	Run	Walk	Run				
1	Rest	10		Rest	11		Rest	8		37	
2	Rest	14		Rest	16		Rest	9		52	
3	Rest	20		Rest	22		Rest	12		72	
4	Rest	26		Rest	28		Rest	12		90	
5	Rest	30		Rest	30		Rest	30		120	
6	Rest	20		Rest	26		Rest	20		86	
7	Rest	27	3	Rest	26	4	Rest	30		81	9
8	Rest	24	6	Rest	22	8	Rest	24	6	95	25
9	Rest	19	11	Rest	18	12	Rest	22	8	79	41
10	Rest	14	16	Rest	12	18	Rest	20	10	62	58
11	Rest	8	22	Rest	6	24	Rest	18	12	42	78
12	Rest	2	28	Rest		30	Rest	16	14	22	96
13	Rest	10	20	Rest	4	26	Rest	12	18	28	82
14	Rest	5	25	Rest		30	Rest	10	20		120
15	Rest		30	Rest		30	Rest	10	20		60
16	Rest	10	20	Rest		10	Rest	10	10		Race

* All values are minutes walking or running

Beginner Half-Marathon Program

This program is designed for the person that has already done some running or other cardio-vascular training but never completed a half marathon. If you've ever participated in a 5k or 10k, then this is the perfect program for you. The goal is to provide a training schedule that allows you to complete the half marathon, not break any world records. The emphasis is to bring you along at such a pace to avoid injury and minimize the stress on your body.

Week #	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday		Weekly Total
1	Rest	1	2	1	Rest	2	3		9
2	Rest	1	2	1	Rest	2	4		10
3	Rest	1	2	1	Rest	3	3		10
4	Rest	1	3	1	Rest	3	4		12
5	Rest	2	3	2	Rest	4	7		18
6	Rest	2	3	2	Rest	5	5		17
7	X-Train	2	3	2	Rest	5	8		20
8	X-train	2	4	2	Rest	6	9		23
9	X-Train	3	4	3	Rest	6	8		24
10	X-Train	3	4	3	Rest	7	10		27
11	X-Train	3	4	3	Rest	5	11		26
12	X-train	3	5	3	Rest	7	7		25
13	X-Train	3	5	3	Rest	5	12		28
14	X-Train	3	3	3	Rest	7	6		22
15	X-Train	2	2	2	Rest	3	0		9
16	Rest	2	0	0	Rest	1	Race		16

* All values are in miles

Intermediate Half-Marathon Program

If you're already in shape and currently train four or five days a week, with at least two days being cardiovascular training, then this program is for you. Or perhaps you've already run a half marathon and want to try and set a new personal record (PR) or just desire a formal training program. This program can certainly be adjusted based on your specific goals and the desired pace to run. Since you are already in shape, the runs start out fairly long and increase throughout the program.

Week #	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday		Weekly Total
1	Rest	2	3	2	Rest	3	5		15
2	Rest	2	4	2	Rest	3	7		18
3	Rest	2	4	2	Rest	4	8		20
4	Rest	2	4	2	Rest	4	6		18
5	Rest	2	4	2	Rest	5	8		21
6	Rest	3	5	3	Rest	6	9		26
7	X-Train	3	5	3	Rest	6	11		28
8	X-train	3	5	3	Rest	6	6		23
9	X-Train	3	6	3	Rest	7	12		31
10	X-Train	3	6	3	Rest	6	13		31
11	X-Train	3	6	3	Rest	7	6		25
12	X-train	4	7	4	Rest	7	14		36
13	X-Train	4	7	4	Rest	7	15		37
14	X-Train	3	5	3	Rest	7	6		24
15	X-Train	2	2	2	Rest	3	0		9
16	Rest	2	0	0	Rest	1	Race		16

* All values are in miles

Marathon Training Programs

The following training programs will help you reach your goal of running a full marathon. Running a marathon is a lifelong dream and goal for many people, and it takes considerable discipline, dedication, effort, and preparation to accomplish this tremendous feat. Not only must you put in the miles week in and week out, but you must remain healthy, take care of your body, and avoid injury. Since the training program is at least 16 weeks, many times your training will span two seasons and you then have to battle the elements as well.

Because of the tremendous stress your body will endure, proper nutrition becomes critical. You will be depleting your body of key vitamins, minerals, amino acids, fatty acids...the list goes on and on. And if you don't replenish these key nutrients, you leave yourself vulnerable to injuries, fatigue, lethargy, poor sleep, and reduced energy levels. We discuss this topic in much more detail later in the two sections Nutrition and Supplementation.

There are two training programs: Beginner and Intermediate. The Beginner program is for the person that already does some cardiovascular training, perhaps three or four times per week either running, biking, or some other cardio training. The Intermediate program is for the person that is already a runner and trains at least 10 miles per week, or has done a marathon in the past. Note that you can also adjust either of these programs to meet your specific fitness level, the general rule of thumb being that you should not increase your weekly mileage more than ten percent per week.

Determine whether the Beginner or Intermediate program is best for you and on the following pages are the specific training programs.

Beginner Marathon Program

Congratulations on deciding to run a full marathon! Completing a marathon, 26.2 miles, is an incredible accomplishment, and is no easy task. We've put together a training program for the runner that has done minimal training and runs less than 25 miles per week. This program starts off slow and gradually builds up your miles. The most you will ever run at once is 20 miles, and this is three weeks before the race. If you can complete this 20 mile training run, you'll be able to finish the complete marathon. The key is to follow the training program and not miss too many runs, as you are slowly conditioning your body to be able to run for over 26 miles!

You'll notice on the training schedule that some of the runs are labelled as "tempo" or "pace" runs. These are defined as follows:

Tempo runs The objective of the tempo run is to push the body a little harder than on other days. In doing this, you increase your oxygen capacity, leg strength, and overall cardio vascular health. In technical terms, tempo pace is described as "the effort level just below which the body's ability to clear lactate, a by-product of carbohydrate metabolism, can no longer keep up with lactate production." This pace is, for most people, about 25 to 30 seconds per mile slower than current 5K race pace. For those fond of using heart rate monitors, tempo runs are done at 90% of maximum.

Pace runs These are runs done at the pace with which you plan to run your race. The objective is to get your body and mind conditioned to running the intended race pace, thereby making it easier and more natural of a pace when race day arrives.

Beginner Marathon Program

Week #	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1	rest 0	Easy 1	tempo 2	easy 1	rest 0	pace 2	long 3
2	rest 0	Easy 1	tempo 3	easy 1	rest 0	easy 2	long 4
3	rest 0	Easy 2	tempo 3	easy 1	rest 0	pace 3	long 5
4	rest 0	Easy 2	tempo 3	easy 2	rest 0	easy 3	long 6
5	rest 0	Easy 3	tempo 4	easy 3	rest 0	pace 4	long 8
6	rest 0	easy 3	tempo 5	easy 3	rest 0	pace 5	long 10
7	rest 0	easy 4	tempo 5	easy 4	rest 0	easy 6	long 8
8	rest 0	easy 4	tempo 6	easy 4	rest 0	pace 6	long 12
9	rest 0	easy 4	tempo 7	easy 4	rest 0	pace 6	long 16
10	rest 0	easy 4	tempo 8	easy 4	rest 0	easy 5	race 10
11	rest 0	easy 4	tempo 8	easy 8	rest 0	pace 8	long 18
12	rest 0	easy 5	tempo 8	easy 5	rest 0	easy 6	long 12
13	rest 0	easy 5	tempo 9	easy 5	rest 0	pace 9	long 20
14	rest 0	easy 5	tempo 9	easy 5	rest 0	easy 4	race 6.2
15	rest 0	easy 4	tempo 6	easy 4	rest 0	easy 4	long 8
16	rest 0	easy 3	tempo 4	rest 0	rest 0	easy 3	Race 26.2

* All values are in miles

Intermediate Marathon Program

The marathon training program for an intermediate runner is given on the next page. This program is designed for the runner that is currently running at least 10 miles per week and wishes to step it up and complete a full marathon. Depending on your current fitness level, you can adjust the mileage and schedule accordingly; however, it is very important that you come close to meeting the weekly mileage in order to prepare yourself for the 26.2 mile race. And as mentioned previously, a good rule of thumb is to not increase your miles more than 10 percent per week.

You'll notice on the training schedule that some of the runs are labelled as "tempo" or "pace" runs. These are defined as follows:

Tempo runs The objective of the tempo run is to push the body a little harder than on other days. In doing this, you increase your oxygen capacity, leg strength, and overall cardio vascular health. In technical terms, tempo pace is described as "the effort level just below which the body's ability to clear lactate, a by-product of carbohydrate metabolism, can no longer keep up with lactate production. This pace is, for most people, about 25 to 30 seconds per mile slower than current 5K race pace. For those fond of using heart rate monitors, tempo runs are done at 90% of maximum.

Pace runs These are runs done at the pace with which you plan to run your race. The objective is to get your body and mind conditioned to running the intended race pace, thereby making it easier and more natural of a pace when race day arrives.

Intermediate Marathon Program

Week #	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1	x-train 1 hour	easy 3	tempo 5	easy 3	rest 0	pace 5	long 10
2	x-train 1 hour	easy 3	tempo 6	easy 3	rest 0	easy 6	long 9
3	x-train 1 hour	easy 3	tempo 7	easy 3	rest 0	pace 6	long 13
4	x-train 1 hour	easy 3	tempo 7	easy 3	rest 0	easy 7	race 6.2
5	x-train 1 hour	easy 3	tempo 8	easy 3	rest 0	pace 8	long 15
6	x-train 1 hour	easy 4	tempo 8	easy 4	rest 0	pace 8	long 17
7	x-train 1 hour	easy 4	tempo 9	easy 4	rest 0	easy 9	long 12
8	x-train 1 hour	easy 4	tempo 9	easy 4	rest 0	pace 9	long 19
9	x-train 1 hour	easy 4	tempo 10	easy 4	rest 0	pace 10	long 20
10	x-train 1 hour	easy 5	tempo 6	easy 5	rest 0	easy 6	race 13
11	x-train 1 hour	easy 5	tempo 10	easy 5	rest 0	pace 10	long 20
12	x-train 1 hour	easy 5	tempo 6	easy 5	rest 0	easy 6	long 12
13	x-train 1 hour	easy 5	tempo 10	easy 5	rest 0	pace 10	long 20
14	x-train 1 hour	easy 5	tempo 8	easy 5	rest 0	easy 4	race 6.2
15	x-train 45 min	easy 4	tempo 6	easy 4	rest 0	easy 4	long 8
16	x-train 30 min	easy 3	tempo 4	rest 0	rest 0	easy 3	Race 26.2

* All values are in miles

Step 2: Get the Appropriate Gear

Now that you've decided to run an organized race and selected your training program, it is extremely important that you have the right gear with which to train. We'll separate gear into two categories: Required and Optional. The "required" gear is a definite must and you won't be able to train without it. The "optional" gear is things that can make training easier and more effective and help ease the pain of all the miles you will be putting in, but they are not required.

Required

Running shoes

The absolute most important piece of gear is your running shoes. If you don't have a quality pair of shoes, all the other gear won't make a bit of difference. A good pair of shoes can mean the difference between finishing and not finishing the half marathon. Improper shoes can cause shin splints, knee and foot injuries, over-exertion of certain muscles, hip problems, arch pain, and many more training-related injuries or inconveniences. It is strongly recommended that you go to your local running store and consult a running specialist to get you fitted with an appropriate pair of shoes. If you can afford it, it's also a good idea to have two pairs of shoes to give each pair a break between training runs, and also allow each pair adequate time to dry out from sweat and water.

Tips for selecting running shoes:

1. First and foremost, make sure you are buying a shoe that was specifically designed for running. Not a cross-training or tennis shoe, but a *running* shoe.
2. While there are many sporting goods stores that carry running shoes, typically these stores do not have running experts. We recommend that you go to a running store and speak with an expert about the best shoe for you. Many running stores have a treadmill and video camera and can actually analyze your stride to select the best shoe. Of course once you find the right shoe for you, you can always buy that shoe at a sporting goods store or even on-line, many times saving you money.
3. Make sure the salesperson is an experienced runner, is educated on all the different shoe makes and models, and listens to you and understands your needs. Explain to him/her what your experience and goals are. Another key question is the amount of support versus cushion you need. Some shoes provide a great deal of support but are more rigid and firm, while others don't provide much support but they are soft and tend to cushion the impact more, thereby reducing the pounding on your body (softer shoes tend to wear out quicker than firmer shoes).
4. It's a good idea to know if you pronate or supinate when you run. Since most runners pronate (run on the inside of the foot) the majority of shoes are reinforced on the inside of the shoe. But if you supinate or have no rotation, you don't want a shoe that is reinforced on the inner heel.
5. Ask if you can try out the shoes before you buy. Many stores will let you try on the shoes and take a run around the parking lot or on the treadmill if they have one.
6. Ask about the store's return policy. A lot of times you can return a pair of shoes, even after you've trained in them several times. Since this may be your first pair of running shoes, until you start training with them you won't have any idea of the effect on your body.
7. If you already have running socks, bring a pair with you when you try on shoes. If you need to buy some, again consult the running expert. Definitely cotton socks are recommended, and you can also buy double-wall socks designed specifically for runners and these help prevent blisters.
8. If you already have a pair of running shoes, take those with you so the sales person has an idea of what works for you.
9. Get both feet measured for length and width. Running and age tend to flatten out your feet, so although you may think know your shoe size, it's possible that your feet are a half- or full-size larger than the last time you had them measured.

10. Price does not always mean the best shoe. Just because a shoe has the latest and greatest whiz-bang features (like air-pocket absorption) doesn't mean that shoe is the best for you. Discuss the pros and cons of each feature with the sales person.

Running apparel

Obviously, you will have to be wearing something while you are training. The specific type of apparel you decide to wear depends on several factors, such as whether you are training indoors or out and if outdoors, what is the temperature, conditions, precipitation, etc.

For summer or hot weather running, you need cool, quick-drying shirts. While you may have plenty of short-sleeved cotton t-shirts, on a long summer run these can make you miserable. Cotton is great for soaking up sweat but it also holds onto that moisture. The solution is to wear a lightweight, breathable shirt made from one of today's high-tech fabrics.

In winter and cold weather running, it's important to dress warmly but not too warmly. It may take several runs to understand how to dress for which conditions. A good rule of thumb is to dress in layers that can be removed easily and even tied around your waist. The most important rule is to start with a layer that is light and breathable and can move moisture away from the body to evaporate. The second layer should be thicker and designed to protect you from the cold.

Running watch

While a running watch could be considered optional, we've chosen to make it a requirement. Since our training program for non-runners is all based on time rather than distance, it is essential that you be able to time how far you've gone on each training run. As you move into the advanced training programs, many of the runs are at a specific pace, thereby requiring a watch to ensure you are keeping the pace.

Similar to shoes, there are watches designed specifically for running. The features of the watches vary, so we recommend you check out various models at the running store and select the one that is best for you. It's a good idea to ask the advice of the sales person and even try on the watches to make sure they are comfortable for you. Virtually all watches will have what's called a "lap time" which allows you to time multiple laps. They also have start/stop times so it's very easy to time the duration of your run.

Water supply

You're probably thinking to yourself, "Well, obviously I need water". The interesting thing is, the majority of runners, especially first-time runners, are either dehydrated or over-hydrated during training runs. For this reason we've decided to include water as a requirement and give you guidelines as to how much and how often to drink water. Symptoms of dehydration include muscle cramps, dizziness, over-heating, and exhaustion. Without adequate water your muscles can't function properly and your body has no way to cool itself off...the importance of proper hydration cannot be stressed enough.

Since there are no specific formulas for how much to drink, we offer several "rules of thumb" to help you determine how much water to consume before and during your runs. We strongly encourage you to listen to your body and keep track of how much water you consume during each run, as well as weather conditions that can effect hydration and water loss.

The first rule of thumb is to hydrate early and often. Start drinking water or sport drinks 45 minutes before your run and continue right through the run. Since there are so many factors that determine your water needs, you'll have to determine the adequate amount for you. A good guide is 8-10 ounces every thirty minutes before the run.

The second rule of thumbs is that, for every 15 minutes of exercise, you consume 8-12 ounces of water. Again, this is a general rule, and needs to be modified based on weather

conditions and your individual needs. Once you have the thirst sensation in your mouth, you are already dehydrated, so try and drink water before this occurs.

After your run, continue to consume as much water as you can without feeling nauseous until your urine is clear. This is a good indication that you are re-hydrated and can return to normal levels of water consumption.

Optional

Log book

It's highly recommended that you keep a log book and record all of your runs. This information not only tracks your progress but can help you better plan for runs in the future. In addition to time and mileage, it's a good idea to record weather conditions, how you were dressed, how you felt overall (tired, weak, sluggish, energized, etc.) and how much water you consumed. You should also make notes specific to that run, such as cramps, aches or pains, or other minor irritations you may have noticed.

Heart rate monitor

Many people like to use a heart rate monitor to gauge their level of exertion and ensure they aren't over-stressing their cardio (lungs) and pulmonary (heart) systems. If you choose to train with a heart rate monitor, instructions will be provided with the monitor that explain target heart rates and how to use the information to guide your training.

Gu or some type of energy gel

During your longer runs your body becomes depleted of glycogen, which is the major form of energy for your muscles. While sport drinks provide some of this glycogen, they typically do not provide adequate amounts. However, there are energy gels such as Gu or Power Gel that contain 100 calories per serving and can be taken during a run to replace much needed glycogen. Again, your individual needs determine if you need these gels and if so, how often. Many runners find it useful to consume an energy packet every fifteen minutes during their runs. It is highly recommended that the energy gels be taken with water to ensure proper absorption and hydration. You can find these gels at sporting goods and running stores.

Eforce or some type of electrolyte replacement drink

During exercise, electrolytes are required for proper muscle function. The four primary electrolytes are sodium, potassium, calcium, and magnesium. As you progress through your runs, your body can become depleted of electrolytes and cause cramping, dizziness, and increased fatigue. It is important that you replace these electrolytes, particularly if the weather is hot such as 70 degrees or higher.

One of the best electrolyte rehydration drinks available is Eforce from Vitacube Systems. Eforce contains all of the four critical electrolytes; sodium, potassium, calcium and magnesium, as well as vitamin E to support removal of free radicals and overall cardiovascular health. Eforce uses a natural plant sugar called Ribose, and only has five grams of carbohydrates so it won't spike your blood sugar level. And perhaps most importantly, Eforce is purely isotonic, meaning it is immediately absorbed into your system and does not require dilution by your body.

Gloves

Most runners don't realize this, but a considerable amount of body heat is lost through the hands. This is true of course on very cold days, but also on days when the temperature is between 50 and 70 degrees Fahrenheit. It is recommended that you wear a thin pair of cotton gloves to conserve energy and keep your hands nice and warm while you run! For very cold days, obviously you need a much thicker pair of gloves.

Step 3: Adequately Nourish Your Body

The importance of proper nutrition in your endurance training cannot be emphasized enough. Similar to how a car requires water, oil, and gasoline, your body requires proper amounts of food, water, and nutrients. Without adequate nutrition, you won't have the energy to train, your body won't recover, your immune system weakens, and you become sick more easily. Not to mention you run the risk of serious injury if your body cannot repair itself.

Peak performance requires adequate amounts of protein, fats, carbohydrates, and water. We'll explain the role of each of these nutrients, and strongly recommend you pick up a book on nutrition or visit the Nutrition section of the Vitacube website at www.vitacube.com. As a rule of thumb, marathon runners should eat a diet high in carbohydrates, moderate in protein, and low in fats. Water should be consumed in conjunction with training levels as discussed in the section "Get the Appropriate Gear".

It is also critically important that your body has the right amount of vitamins and minerals. Since runners are stressing their bodies more than the average person, vitamin and mineral intake is much higher. It is strongly recommended that you supplement your nutrition with good vitamins and minerals. **For more information about supplements, refer to the VitaCube website at www.vitacube.com or refer to the section "Nutritional Supplements" later in this guide.**

Carbohydrates

The primary energy source for your body is glycogen, the form in which your body stores carbohydrates. It is critical that carbohydrate consumption matches what is burned, otherwise glycogen stores are depleted and fatigue sets in, thereby preventing the ability to maintain training intensity. A marathoner's diet needs to be rich in carbohydrates in order to replenish and maintain glycogen stores.

Examples of excellent carbohydrate sources include: potatoes, pasta, rice, fruits, vegetable, beans, cereal, and bread.

60-70% of your caloric intake per day should be in the form of carbohydrates. To determine the right amount for you, multiply your weight in pounds by 3.2, this gives you the number of grams of carbohydrates per day you should consume. Note that this is just a general rule of thumb, and you can adjust your caloric intake based on training intensity and energy levels from day to day. Food labels indicate how many grams of carbohydrates are in the food, and carbohydrate levels for foods that may not be labeled are as follows:

- grain products such as bread, rice, or pasta: 15 grams per serving (1/2 cup)
- fruit: 15 grams per serving (one whole fruit equals a serving)
- dairy products like milk or yogurt: 12 grams per serving
- vegetables: 5-10 grams per serving

Protein

Protein is the primary component of muscle growth and repair. Regular training tends to tear down muscles and facilitate protein loss from the body. Protein breakdown occurs during training and physical exertion, and protein build-up is enhanced just after the workout during recovery. Protein provides only about 5% of energy needed when glycogen levels are high, but when glycogen levels drop due to insufficient carbohydrate intake, protein is used for energy and can provide up to 10% of required energy. Since protein is not converted to energy as easily as carbohydrates, it is a very inefficient source of fuel.

To determine your protein requirements, multiply your body weight in pounds by .6 and this gives you your daily requirement in grams. For example, a 200 pound man requires 120 grams of protein per day. Good sources of protein include lean meat, fish, eggs, poultry, and certain dairy products. Other good sources include tofu, nuts, and beans. Protein levels for some of these foods are as follows:

- lean meat, fish, and poultry: an eight ounce serving has roughly 40 grams of protein
- one egg, four ounces of tofu: seven grams of protein
- one cup lowfat mil or yogurt: eight grams of protein

High protein intake generates more nitrogen in the body which must be eliminated by the kidneys. This requires more water than usual and can contribute to dehydration. In addition, if protein and fats are consumed after training rather than carbohydrates, incomplete replacement of muscle glycogen occurs which can leave you feeling sluggish and impair performance. On the other hand, a high carbohydrate diet is easy to digest and quickly replenishes muscle glycogen.

Tip: Additional low-fat protein sources are protein powders and meal replacement shakes such as VitaPro from Vitacube Systems. These products provide high-quality protein without all the fat and/or carbohydrates. Read more about VitaPro on the Vitacube website at www.vitacube.com.

Fats

There are two types of fat: saturated and unsaturated. Saturated fat is the bad kind and is found in foods such as chocolate cake, fried foods, ice cream, cookies, hot dogs and so on. Unsaturated fat is the good kind and is found in olive oil, fish, seeds, and nut oils. For this discussion we will only address saturated fat consumption.

A runner's diet should consist of less than 30% fat. Fat breakdown cannot provide energy to the muscles fast enough during training, that is why muscle glycogen (carbohydrates) are the preferred energy source. Since fats also take longer to digest, they should be eliminated from pre- and post-race meals.

Training FAQs

Q: How long should my runs be?

A: Most beginning (and many experienced) marathoners have this same question, along with wondering how many long training runs are done and how many times per week they should run?

The answer depends on the individual person and their goals. There are, however, some general guidelines to follow. Elite marathoners sometimes run twice per day and over 100 miles per week, yet the body of most of us could not take such pounding. Following is a list of important guidelines when following a training program:

- Weekly distance should be gradually increased until two to three weeks before the marathon.
- Twice a week you should do two long runs; one midweek and one on the weekend works well.
- Most programs suggest running five days per week.
- One or two days should be used to rest so your body can recover.
- Other than long runs, your runs should be roughly three to six miles.

About longer runs:

Longer runs are done so your body can get used to longer distances and to build your endurance and stamina. Your body will not get accustomed to longer distances unless you train it and ease into it. Two long runs per week are suggested so your body has time to recover in between. Refer to one of the included training programs to understand how longer runs fit into your training.

Q: At what pace should I train?

A: Since the goal is to safely finish the race, the majority of training runs should be run at a comfortable and relaxed pace. Injuries typically happen when you greatly increase the training pace or try to increase weekly mileage by more than ten percent per week. The longer runs especially should be at a comfortable pace, typically a bit slower than shorter runs.

For more experienced runners, it is perfectly acceptable to incorporate some speed workouts and faster paced runs. This is one of the best ways to increase endurance and stamina and improve your overall race time. Speed work should be based on your present fitness level and you should be realistic on your goals. Remember, speed work can result in injury if not done properly.

Q: How does road training compare to the treadmill?

A: Training on a treadmill is perfectly acceptable and can be an excellent alternative, especially when weather prevents training outdoors or you are recovering from an injury. Given that you can vary the incline, treadmills are great for simulating outdoor hill runs. Keep in mind, however, that you should do some outdoor training to get used to running on these surfaces.

Tip: If you set the incline of a treadmill between 10 and 15, you can keep the pace very slow and still get a great cardio workout and strengthen your leg muscles, without putting the stress on your joints from repeated pounding on hard pavement or concrete.

Q: What causes muscle cramps and how can I avoid them?

A: Dehydration is the leading cause of muscle cramps. The best way to avoid cramps is to make sure you drink plenty of water before and during your runs. The first rule of thumb is to hydrate early and often. Start drinking water or sport drinks 45 minutes before your run and continue right through the run. Since there are

so many factors that determine your water needs, you'll have to determine the adequate amount for you. A good guide is 8-10 ounces every thirty minutes before the run.

The second rule of thumbs is that, for every 15 minutes of exercise, you consume 8-12 ounces of water. Again, this is a general rule, and needs to be modified based on weather conditions and your individual needs. Once you have the thirst sensation in your mouth, you are already dehydrated, so try and drink water before this occurs.

It is also very important that you stretch before your runs, this will help to loosen the muscles and connective tissues as well as promote blood flow (which carries water) to the necessary muscles.

Q: I have shin-splints, why do I get them and what can I do to prevent them?

A: Shin splints are simply pain in the lower front of the leg above the ankle. Athletes that continually pound the legs, like runners, can develop shin splints as it is a typical overuse injury. It occurs over a period of time rather than overnight. The location of the pain is where the soleus muscle of the calf attaches to the shin bone, or tibia. If you poke around the inside of your shin bone, you'll feel the soleus muscle, and this is where the pain originates.

If you can decrease the pounding forces on the leg you can decrease the likelihood of injury...sounds pretty obvious, doesn't it? The problem is that when training for a half marathon it's sometimes difficult to take time off. Many times shin splints are the result of improper footwear, so it is essential that your shoe fits your foot type and provides the appropriate balance of cushion and support. The expert at your local running store can help you select the proper footwear.

The surface on which you run also makes a big difference. If you have been training on concrete or pavement, try switching to dirt or a cinder track. You can also switch to treadmill training, where you can even increase the incline at which you run and slow down your pace. This will still give you a great leg and cardio workout and minimize the pounding on your shins and joints. Cycling and stair-masters are also excellent alternatives to running that can further reduce the pounding.

After a run, ice your shins as this will reduce the swelling and promote healing and recovery. Make sure your shoes are not outworn, and check your logbook to see how many mile you've been putting in. You can also massage your soleus and calf muscles before and after runs which should give you some relief.

Q: How should I eat properly to train for my race?

A: In the section "Adequately Nourish Your Body" earlier in this training guide, nutrition is discussed in detail. There are a few key guidelines that you should follow that will make a huge difference in the effectiveness of your training and success of your race.

First of all, 60-70% of your diet should be carbohydrates such as potatoes, pasta, bread, rice, fruits and vegetables. 20-30% should come from protein and the remaining 10-20% from fats. It is also a very good idea to carbo-load before big runs, meaning eat a meal high in carbohydrates the night before a run.

Since you will be stressing your body more than usual, it is also recommended that you supplement your diet with nutritional supplements. Many ailments, aches and pains, and even injuries can result from improper nutrition, not to mention your body can recover more quickly and you can have increased energy and endurance from supplements. Refer to the section "Supplement Programs for Runners" earlier in the guide, or check out www.vitacube.com for supplement information.

Q: What are energy drinks and can they help my training?

Energy drinks provide three very important nutrients: water, electrolytes, and carbohydrates. As you train, your body burns blood sugar (glycogen) for energy and electrolytes (sodium, potassium, calcium, and magnesium) for proper muscle function. Energy drinks consumed prior, during, and after runs will replenish all of these nutrients. One thing to be aware of, energy drinks high in sugar can actually dehydrate you more than they

hydrate you. It is recommended that your energy drink have as little sugar and carbohydrates as possible and you get your energy (carbs) from another source such as Gu or PowerGel.

Vitacube provides a product called EForce that was specifically designed for endurance athletes and provides all the essential electrolytes your body consumes during training. Check out the Vitacube website at www.vitacube.com for more information about EForce.

Q: How should I go about buying running shoes?

Refer to the section "Get the Appropriate Gear" for details about how to select the best running shoe for you.

Q: Will nutritional supplements help my training?

A: In general, the answer to this question is yes, nutritional supplements can help your training. In each individual case, the extent to which they help depends on several factors, namely: what are your nutritional habits, how often and what kinds of foods do you eat, what is your metabolic rate (how fast do you burn calories), what type of lifestyle do you lead (do you get enough sleep, do you drink alcohol, are you in the sun quite a bit, etc.).

Nutritional supplements have been shown to help recover more quickly, improve endurance and stamina, maintain a strong immune system, aid the quality of sleep, and many other positive benefits. We strongly encourage you to visit the Vitacube website www.vitacube.com to learn more about overall nutrition and specifically nutritional supplements.

Q: I've been feeling great, can I increase my weekly mileage more than the schedule says?

A: You will be tempted to increase your mileage each week, especially as you get in better shape. However, it is strongly recommended that you not increase your distance more than 10 percent per week, as increasing more than this has shown to be a major cause of training injuries. For runners, often their own worst enemy is their energy and enthusiasm. You feel great so you figure you can do more training.

Q: Will a high-fat diet impair my performance as an athlete?

A: Muscle glycogen (carbohydrates) is preferred over fat for fuel for high intensity exercise of long duration because fat breakdown cannot supply energy fast enough. In addition, fat takes longer to digest than carbohydrates and thus should be limited in pre-exercise meals.

Q: How can I improve my race time for the half- and full-marathon?

A: You need not only speed, but the endurance to hold that speed over a longer period of time to complete a half- and full-marathon. Following are some workouts that can help you improve your overall time:

- Long Repeats: For success at shorter distances, interval training featuring 200 and 400 repetitions works quite well. To race longer, you need to train longer. Running repetitions between 800 and 1600 meters will improve your endurance. Run the repetitions near your 5-K and 10-K race pace respectively. Jog or walk 400-800 meters between each repeat. You may want to do your long repetitions on the road, rather than on the track.
- Pace Training: Learning to properly pace yourself is even more important in the half-marathon and marathon than it is in the 5-K or 10-K. If you've gone out too fast in one of those races, you sometimes can gut it out over the last mile without losing too much time. In the half, you'll have a longer time to pay for your sins. Do some of your training at race pace. Saturday is a good day for this, before your Sunday long runs.
- Tempo Runs: This is a continuous run with a build-up in the middle to near half-marathon race pace. The difference between the Tempo Runs done while training for 5-K or 10-K races is that you don't run quite as fast in the middle, but you hold your speed longer. A Tempo Run of 45-60 minutes would begin with 10-20 minutes easy running, build to 20-30 minutes near half-marathon pace, then 5-10 minutes cooling down. The pace build-up should be gradual, not sudden, with peak speed coming about two-thirds into the workout.

Nutritional Supplements

Ok, so here's the deal. Now that you've decided to take the challenge of running 10k, 13.1, or 26.2 miles, there's something you should know: your body is going to take quite a beating from all the training and pounding, and you need to do everything you can to minimize the jarring and damage. It is extremely important that you provide your body the nutrients it requires in order to adequately recover from your training runs and have the energy and stamina for the miles you will be putting in. This is where nutritional supplements can help.

You see, in this day and age it's incredibly difficult to get all the nourishment our bodies need from our daily diets. Throw on top of this the extra stress you put on your body when you train for a long race and you are leaving yourself extremely vulnerable to injury, illness, and general discomfort from the training. So you may be thinking, with all the latest and greatest technology and vitamin enriched foods, surely my diet is complete? Well, this is a fallacy that a lot of people believe. The reality is, foods today are less nourishing than they were 30 years ago. Why? Well for one thing there's a phenomenon called "soil leaching" that occurs. Year after year we farm our lands, and the net result is that the vitamins and minerals in the soil are absorbed by the plants and food, thereby leaching the soil of valuable nutrients. The cumulative effect is that fruits and vegetables today contain fewer nutrients than in the past. Couple this with the fact that so many people eat refined and processed foods and it's no wonder this country is under-nourished.

Now you understand the need for nutritional supplements. Trying to nourish our bodies with all the vitamins and minerals we need becomes a daunting task. With this in mind, the experts at Vitacube have designed nutritional systems to help you ensure you're giving your body what it needs to maintain your health and prevent injury...especially when you stress it as you will with marathon training.

Overview of Supplement Programs for Runners

The nutrition and training experts at Vitacube have assembled supplement programs designed specifically for runners and endurance athletes. The miles and miles of training you do each week can take their toll on your body, and without proper nutrition you run the risk of injury and illness. Since anyone training for a long race requires supplementation to their diet, especially beginning runners, we've designed three supplement programs based on experience with supplements and overall diet.

The following three supplement programs are explained on the following pages:

- Basic Supplement Program (training 0-25 miles per week)
- Essential Supplement Program (training 0-25 miles per week)
- Elite Supplement Program (training 0-25 miles per week)

Review these programs and decide which one is best for your needs based on your experience with supplements and amount of training you'll be doing.

Other Useful Training Information

Pace charts

The following tables show per-mile pace times and overall half marathon times. Use this guide to determine your training pace and desired finish time for the half marathon.

Miles	6:00	6:10	6:20	Pace	per	Mile	7:00	7:10	7:20
1	6:00	6:10	6:20	6:30	6:40	6:50	7:00	7:10	7:20
2	12:00	12:20	12:40	13:00	13:20	13:40	14:00	14:20	14:40
3	18:00	18:30	19:00	19:30	20:00	20:30	21:00	21:30	22:00
4	24:00:00	24:40:00	25:20:00	26:00:00	26:40:00	27:20:00	28:00:00	28:40:00	29:20:00
5	30:00:00	30:50:00	31:40:00	32:30:00	33:20:00	34:10:00	35:00:00	35:50:00	36:40:00
6	36:00:00	37:00:00	38:00:00	39:00:00	40:00:00	41:00:00	42:00:00	43:00:00	44:00:00
7	42:00:00	43:10:00	44:20:00	45:30:00	46:40:00	47:50:00	49:00:00	50:10:00	51:20:00
8	48:00:00	49:20:00	50:40:00	52:00:00	53:20:00	54:40:00	56:00:00	57:20:00	58:40:00
9	54:00:00	55:30:00	57:00:00	58:30:00	1:00:00	1:01:30	1:03:00	1:04:30	1:06:00
10	1:00:00	1:01:40	1:03:20	1:05:00	1:06:40	1:08:20	1:10:00	1:11:40	1:13:20
11	1:06:00	1:07:50	1:09:40	1:11:30	1:13:20	1:15:10	1:17:00	1:18:50	1:20:40
12	1:12:00	1:14:00	1:16:00	1:18:00	1:20:00	1:22:00	1:24:00	1:26:00	1:28:00
13.1	1:18:39	1:20:50	1:23:01	1:25:12	1:27:23	1:29:35	1:31:46	1:33:57	1:36:08
	7:30	7:40	7:50	8:00	8:10	8:20	8:30	8:40	8:50
1	7:30	7:40	7:50	8:00	8:10	8:20	8:30	8:40	8:50
2	15:00	15:20	15:40	16:00	16:20	16:40	17:00	17:20	17:40
3	22:30	23:00	23:30	24:00:00	24:30:00	25:00:00	25:30:00	26:00:00	26:30:00
4	30:00:00	30:40:00	31:20:00	32:00:00	32:40:00	33:20:00	34:00:00	34:40:00	35:20:00
5	37:30:00	38:20:00	39:10:00	40:00:00	40:50:00	41:40:00	42:30:00	43:20:00	44:10:00
6	45:00:00	46:00:00	47:00:00	48:00:00	49:00:00	50:00:00	51:00:00	52:00:00	53:00:00
7	52:30:00	53:40:00	54:50:00	56:00:00	57:10:00	58:20:00	59:30:00	1:00:40	1:01:50
8	1:00:00	1:01:20	1:02:40	1:04:00	1:05:20	1:06:40	1:08:00	1:09:20	1:10:40
9	1:07:30	1:09:00	1:10:30	1:12:00	1:13:30	1:15:00	1:16:30	1:18:00	1:19:30
10	1:15:00	1:16:40	1:18:20	1:20:00	1:21:40	1:23:20	1:25:00	1:26:40	1:28:20
11	1:22:30	1:24:20	1:26:10	1:28:00	1:29:50	1:31:40	1:33:30	1:35:20	1:37:10
12	1:30:00	1:32:00	1:34:00	1:36:00	1:38:00	1:40:00	1:42:00	1:44:00	1:46:00
13.1	1:38:19	1:40:30	1:42:41	1:44:52	1:47:03	1:49:14	1:51:26	1:53:37	1:55:48
	9:00	9:10	9:20	9:30	9:40	9:50	10:00	10:10	10:20
1	9:00	9:10	9:20	9:30	9:40	9:50	10:00	10:10	10:20
2	18:00	18:20	18:40	19:00	19:20	19:40	20:00	20:20	20:40
3	27:00:00	27:30:00	28:00:00	28:30:00	29:00:00	29:30:00	30:00:00	30:30:00	31:00:00
4	36:00:00	36:40:00	37:20:00	38:00:00	38:40:00	39:20:00	40:00:00	40:40:00	41:20:00
5	45:00:00	45:50:00	46:40:00	47:30:00	48:20:00	49:10:00	50:00:00	50:50:00	51:40:00
6	54:00:00	55:00:00	56:00:00	57:00:00	58:00:00	59:00:00	1:00:00	1:01:00	1:02:00
7	1:03:00	1:04:10	1:05:20	1:06:30	1:07:40	1:08:50	1:10:00	1:11:10	1:12:20
8	1:12:00	1:13:20	1:14:40	1:16:00	1:17:20	1:18:40	1:20:00	1:21:20	1:22:40
9	1:21:00	1:22:30	1:24:00	1:25:30	1:27:00	1:28:30	1:30:00	1:31:30	1:33:00
10	1:30:00	1:31:40	1:33:20	1:35:00	1:36:40	1:38:20	1:40:00	1:41:40	1:43:20
11	1:39:00	1:40:50	1:42:40	1:44:30	1:46:20	1:48:10	1:50:00	1:51:50	1:53:40
12	1:48:00	1:50:00	1:52:00	1:54:00	1:56:00	1:58:00	2:00:00	2:02:00	2:04:00
13.1	1:57:59	2:00:10	2:02:21	2:04:32	2:06:43	2:08:54	2:11:05	2:13:17	2:15:28

