How Long Should Your Long Run Be?

It's the Backbone of Your Long-Distance Program. Are You Doing It Right?

BY DAN HORVATH

It has been called the cornerstone or backbone of marathon training. It has been called the marathoner's bread and butter. Most succinctly, it has been called the most important marathon and ultra training element. It, as you may have guessed, is the long run. Nearly everyone agrees that long runs need to be done. The only question is how.

How, of course, is more than one question. How long? How fast? How many? And those are just for starters. Should the pace be steady? Should long runs be weekly? What is the best surface? The list goes on. Of course, what you want to know most of all is what will work best for me?

WHY RUN LONG?

You won't find too many marathoners or ultramarathoners who don't do long runs. Coaches, running authors, and other experts recommend them for all runners but particularly for those training for 26.2 miles or more. Most of us accept the efficacy of long runs almost without question. But let's ask it anyway: why should we run long?

The most important reason is this: training is specific. It's just as your mother told you: if you want to be good at something, practice, practice, practice. You are not going to become a world-class sprinter by jogging 70 miles per week on roads at a conversational pace. And you're not going to reach your potential in the marathon by not running those long distances in training.

The human body's ability to adapt is truly amazing. Long runs teach your body to store and use glycogen appropriately, process and eliminate lactate efficiently, and operate efficiently even while slightly dehydrated. Important bodily operations, such as bladder and bowel functions, learn to adapt as well. Perhaps

the most important thing your body learns is how to stay on its feet and continually move forward for an extended period of time, staving off muscle fatigue as much as possible. Remaining vertical happens to be a critical success factor for marathons and ultras.

Long runs also train your brain. Your mind becomes accustomed to the rhythm of your stride over a matter of hours, as opposed to minutes. You gain confidence in your ability to perform in the race itself.

There is yet another reason to run long, although not all runners would necessarily agree—but they should. Long runs are fun! Whether it's alone, in pairs, or as part of some larger group, a long run can be a joyful experience. Running for three hours can have an almost dreamlike quality. Just think: you're away from work, your computer, the tube, games, music (usually), and most of all the demands of other people, for two or more hours. Assuming you have found a reasonably quiet, safe place for your running, you may also be able to avoid traffic, noise, and pollution as well. Opportunities for such solitude outside of running are rare these days. And the icing on the cake is that you're doing something you enjoy and deriving benefit from the whole time!

HOW FAR?

Just what is a long run? And more specifically, how long should your long run be?

To answer the first question, we have to be a bit arbitrary. We could say that a person's longest run of a given week is a long run. But while 10, 12, or 15 miles may be the longest weekly run for many who are in the early stages of their training, nearly all marathoners and ultramarathoners ought to include runs longer than that during their latter training stages. With this in mind, let's pick 18 miles as the minimum distance for a long run. It's greater than the distances noted above, and most runners will perform their best if their training includes runs of 18 miles or more.

To satisfy the needs of slower runners and those who run strictly by time, let's add a time measurement to the definition. To run 18 miles at a nine-minute-per-mile pace would take two hours, 42 minutes. So arbitrarily once again, we can suggest that long runs are either 18 miles or more or two hours, 40 minutes or more, whichever measurement is less. Thus runners doing nine minutes per mile or slower can say that they have done a long run after 160 minutes on the road, while faster runners might call anything 18 miles or more a long run, even if they have covered the distance in two hours and 15 minutes.

The question as to how long your long run should be is the more important one. It is best answered by asking other, more pointed, questions.

What Are You Training For?

An ultrarunner who has a 100-miler coming up will want to put some very long runs out there. Six- to eight-hour trail runs are not unusual. Most marathon runners should complete their long runs in under four hours.

Where Are You in Your Schedule?

Most runners schedule a peak in mileage, speed, and long-run mileage about four to five weeks before their event. Middle-of-the-pack marathoners may want to work up to a long run of 18 miles early on and then increase it to 22 or so with about four weeks to go.

How Much Can You Handle?

Some runners, even some very good marathoners, simply cannot run too many miles without breaking down. In addition, you need to save something for your midweek running. Everyone handles the recovery from long runs differently. It would be safe to say that you should run as long as you can, while recovering enough to be able to run strongly again in another 48 hours.

Have You Been Hitting the Wall?

If your longest long runs have been in the 18- to 20-mile range and you have been hitting the wall around the 20-mile mark during your marathons, this may be telling you something. Consider increasing the length of your long runs to 23 or so within the context of some of the other questions explored in this section.

How Many Weekly Miles Are You Doing?

If your mileage is in the 35-miles-per-week range and you plan to do a 25-mile training run without increasing overall mileage, that leaves only 10 other miles for your midweek training. So 25 may be a bit much. On the other hand, if you are doing 140 miles a week and your two-a-day schedule never lets you run more than 15 miles at one time, your long runs may possibly be too short. For less extreme cases, let's devise another arbitrary rule of thumb. Let's say that for most runners, your long run should be between 25 percent and 35 percent of your weekly mileage. An 80-mile-per-week runner running a 20-miler is in the 25 percent range while a 55-mile-a-week runner doing that same long run is near the 35 percent range. The 35- and the 140-mile-per-week runners will be outside this range, so some modifications may be necessary.

How Long Should You Be on Your Feet?

One rule of thumb has been to run for as long a time as you expect to for your marathon. If you are planning on a 3:16 (7:30 pace) marathon, your longest long

run would be 3:16 at perhaps an 8:30 pace (about 23 miles). Slower marathoners and ultrarunners would need to put some kind of reasonable maximum on the amount of vertical time—perhaps three hours, 40 minutes for the marathoners.

Which Experts Do You Believe?

Jeff Galloway has long been an advocate of slow training runs of 26 miles and longer. Pete Pfitzinger believes that most long runs should be in the 20- to 22-mile range, with one or two only slightly longer. Joe Henderson agrees with the "run as many minutes as you expect to in the marathon but slower" philosophy. Jack Daniels believes that upper limits for long runs ought to be 20 to 22 miles for faster runners and 20 miles for slower runners.

Once you are well into your training schedule and able to handle long runs in excess of 21 miles, consider alternating long runs with extra-long runs. Your long runs may be 20 miles and your extra-long runs may be 23 to 25 miles each. This way you achieve the confidence and strength required for a marathon but not quite every week so you will still have something left for that midweek training.

Elite runners can also be considered "experts." If you're wondering what some elite runners do for their long runs, see "What Do the Elites Do?" on page 125.

HOW FAST?

This question is naturally intertwined with that of how far. If you run very far (say, 30 miles or more), you probably can't run as fast as when you're keeping your long runs on the short side (say, around 18 miles). Conversely, if you run extremely slowly, you may not be able to cover the distance you need to in a reasonable period of time. It may be fine for ultramarathoners to spend six perfectly good Sunday-morning hours on the trails, but this may be counterproductive to a fast marathon time.

Galloway, Henderson, and several others believe long runs should be at a very slow pace. Many suggest 1 1/2 to two minutes per mile slower than your race pace. Galloway has espoused the practice of taking walking breaks during long runs as well as during the marathon itself. "Gallo-walking" has proven to be somewhat successful for those without aggressive time goals.

Jack Daniels recommends that long runs should be at an easy pace. Based on recent race performances, average runners' easy pace works out to about a minute per mile slower than marathon race pace. Faster runners should run slightly faster than that, and slower runners a bit slower. Other middle-of-the-road advice comes from Pete Pfitzinger. He recommends that your long run pace be 10 to 20 percent slower than planned marathon pace.

And then there is *Marathon & Beyond*'s own Rich Benyo. Remember the part about practice, practice, practice? How can you expect to run all 26.2 miles

of a marathon at a 7:30 pace when all of your long-run mileage has been at a 9:30 pace? In this instance, you have taught your body to run long distances but at a much slower pace than you want to go during the race. Benyo believes that long runs should be at marathon pace or slightly faster, and he has incorporated this concept into his training plans. Of course, this isn't easy. And, of course, there is a bit of controversy about this. But this approach sure puts the specificity of training concept to the test.

The best approach, of course, is what works best for you. You may need to experiment with all three concepts listed above to determine which is optimal. Consider varying the pace during the run itself. Perhaps you might try breaking the run up into three or four parts and run each at a slightly faster pace until you are doing the last five miles at marathon pace.

Also consider alternating fast and slow long runs. You can incorporate this idea with that of alternating the distance of your long runs. For example, a 3:15 marathoner might run a 20-miler one week at 7:45 pace and then a 24-miler the next week at 8:30 pace. To take the example a step further, this runner might consider running the last five miles of the last 24-miler at the marathon pace of 7:30 per mile.

HOW OFTEN?

For better or worse, most of us adhere to a weekly work and social schedule. For practical reasons, it's natural to align a training schedule with that social and work schedule. Thus we have weekly speed work sessions, weekly days of rest, and weekly long runs. It doesn't absolutely have to be this way; some coaches believe that a long run every seven days is too often and recommend a 10-day training cycle with one long run per cycle. But this may not be realistic for those of us who also do nonrunning work for a living. Some, including Galloway, have suggested that a long run every two weeks is optimal.

Most coaches, however, stay with the weekly schedule. It may make sense to skip a weekly long run on occasion, perhaps substituting a race or speed work session. So consider skipping the long run in favor of rest, speed work, or a race during one weekend each month.

HOW MANY?

Some runners do weekly long runs all year, even during the off-season. For these individuals, this question becomes moot. The more important questions are how long is your training period and what kind of shape are you in at the start of it.

Most training plans are 12 to 18 weeks long, although some are as long as 24 weeks. Let's say that 16 weeks is typical. Assuming the long runs are to be done

weekly, the next question is, when do they start? In other words, at what point in the 16-week schedule will your longest run reach 18 miles? Let's say that most runners would be scheduled to reach this point by the halfway point. In this case, the runner would do about seven long runs (weeks eight through 14), with weeks 15 and 16 reserved for a taper and the race itself. The length of these long runs will vary as noted above. This number could be reduced by one or two for runners who decide to skip a long run or substitute a race.

Some will think that seven long runs are too many, and others (those all-year weekly long-run types) will think they are too few. It's going to vary by individual, but it's worth noting that there should be some minimum number of long runs in order to expect a decent marathon performance. Let's arbitrarily say that the minimum number of long runs that should be done in preparation for a marathon or ultra is four.

HOW HILLY AND HOW ROUGH?

Since this is actually several terrain-related questions, let's examine each one:

Is It Better to Run on Trails If Your Goal Event Is on Roads?

Many runners enjoy doing much of their training, and particularly their long runs, on trails. They feel that the surface is easier on the joints and yet still affords a great and enjoyable workout. Most of the rest of us would derive some benefit by adding trail runs to our regimen. If your goal event is on paved roads, however, remember that training is specific. You won't perform your best unless you include at least some runs, including long ones, on that same surface. The two main reasons are that you can train faster on roads than on trails and that your body will get used to the stress of the harder surface.

Is It Better to Train on Asphalt Versus Concrete?

This one is easy: asphalt by a light-year. Concrete is much too hard a surface and should be avoided as much as possible for your long runs. What if your goal marathon is on a concrete surface? The best advice would be to pick another marathon. If you still want to do that one, training on asphalt should be adequate. It would be much better to train on asphalt than on concrete for a concrete event because you will have had enough hard-surface training yet you will not have had the impact problems that you would have had you run on concrete.

Should You Do Long Runs on a Treadmill?

Not unless you have a good movie to watch. Long runs on treadmills are fine, mostly because you are never far from your starting point, the risk of injury is slightly lower, and recovery is faster. You won't find too many marathons where

there is a gentle moving belt under your feet, however. As with the trails, you should do at least some of your long runs on the type of surface that your goal event will have.

Should You Train on Hills If Your Goal Event Will Be Flat? Should You Train on Hills If Your Goal Event Will Be Hilly?

The short answers are yes, to some degree, and *yes*! Hill training will benefit all runners, even those training for a flat event. Hill training is an integral component in many running plans, including those devised by Arthur Lydiard. Incorporating hills into long runs makes them interesting, challenging, and fun. This should be done in moderation by those training for flat events, however. In these cases, it's especially important to keep the hills moderate for the last few long runs leading up to the event. If, on the other hand, you are training for an event that you know will be hilly, then you should try to incorporate those hills into your long runs as much as possible. It would also be helpful to include substantial downhill running for downhill races such as Boston.

PUTTING IT ALL TOGETHER

All runners should understand that by making their long runs too long or too fast, they assume the risk of jeopardizing their midweek training. On the other hand, more specific training will give runners a better chance of achieving their goals. It's an important balance—to make your weekend long runs challenging enough and yet to be able to run hard again by the following Tuesday or so.

Long runs are not to be taken lightly. You are going to be out in the elements and exerting your body for a matter of two hours or more. This isn't easy. Do a short taper and allow time for recovery afterward. Carboload to some extent. Get proper rest before and after. How much you prepare will have a direct effect on the quality of your long runs, and the quality of your long runs will have a direct effect on the quality of your race.

Running long runs with others helps take the drudgery out of them, making them more of a social experience. Gordon Bakoulis believes that this makes them easier mentally. For this reason, Bakoulis recommends that at least one or two be done solo. This is still another aspect of the need to train your mind.

You can consider substituting a race for one of your long runs, but take care. A half-marathon, 25K, 30K, or even a full marathon can be an excellent training device. But remember to keep your eyes on the prize—your own goal race. Run these training races at perhaps 90 percent effort so that a speedy recovery is ensured. This is especially so if you're within five to six weeks of your goal race.

For specific suggestions/recommendations for how to incorporate long runs into your training plans, please refer to "A Long Run Schedule" on p. 124.

And remember to have fun!

A Long-Run Schedule

Most marathoners and ultramarathoners plan on a 12- to 24-week training schedule, with 16 weeks being most typical. With that in mind, here are long-run schedules for runners who average 45, 65, and 85 miles per week. "Easy" speed means about 1 to 1-1/2 minutes per mile slower than planned marathon pace. "Brisk" means about 1/2 to 3/4 minute per mile slower than marathon pace. For those weeks that call for marathon pace running, make sure that you gradually work up to that speed. And if you choose to include other races, take care not to run them too hard.

Week	Long-Run Distance on 45 Miles per Week	Long-Run Distance on 65 Miles per Week	Long-Run Distance on 85 Miles per Week	Speed
1	13	15	15	Easy
2	16	17	18	Easy
3	14	16	18	Easy
4	17	18	19	Easy
5	15	18	18	Gradually increase speed—last few miles at marathon pace
6	17	20	21	Easy
7	16	18	20	Brisk pace
8	19	22	23	Easy
9	18	20	20	Consider substituting a long race
10	19	22	24	Easy
11	18	20	21	Brisk pace
12	20	23	25	Easy
13	18	20	21	Consider substituting a long race, but don't kill yourself.

Week	Long-Run Distance on 45 Miles per Week	Long-Run Distance on 65 Miles per Week	Long-Run Distance on 85 Miles per Week	Speed
14	21	24	25	2nd half at marathon pace
15	18	20	22	Easy, but finish at marathon pace
16	10	12	13	Easy
17	GOAL RACE	GOAL RACE	GOAL RACE	Optimal!

What Do the Elites Do?

The elite runners are different from the rest of us. They run faster. What the elites do isn't always what we should do, but it sure doesn't hurt to study them. We might even learn something. Unfortunately, not all elites share their training schedules. For those who do, we don't always have the complete story. Here are a few pieces of information from both current and "old-guard" runners.

Khalid Khannouchi does about eight long runs of up to 22 miles during his 16-week buildup. He runs them hard and finishes extremely hard, often doing the last few miles faster than marathon pace.

2000 Olympic Marathon champion Naoko Takahashi reportedly ran up to 80 kilometers on some of her training days, but there are more credible reports of runs of 40K at 10,000 feet elevation. Either way, that's some running!

Greg Meyer ran 20-mile fartlek training runs on the Boston Marathon course during the weeks leading up to the event. (He ran Boston in 2:09:00 in 1983.)

During his best racing years, Bill Rodgers ran a "good quality" 20- to 23-miler every weekend.

Multiple Comrades Marathon champion Bruce Fordyce believed in doing relatively few long runs as part of his long ultramarathon training schedule. He usually did one 35- to 43-miler, eight 26- to 35-milers, and three 20- to 26-milers. Fordyce also did other slightly shorter runs that many would consider long.

Rob de Castella's training schedule called for weekly runs in the 20- to 22-mile range. He ran these in times anywhere from 2:15 to 2:40.

For Grete Waitz, training for the marathon was different from training for shorter races only in that the overall mileage was higher, and this was mostly

in the form of her long runs. Her long runs were in the 15- to 18-mile range leading up to her marathons.

Frank Shorter, the 1972 Olympic marathon champion, ran his long runs in the 20-mile range. He says that he ran the first half of these relatively slowly (at about 6:27 per mile) but then did the second half at about 5:00-per-mile pace.

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