Chapter Seven

Preparing for Road Races

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HOW TO IMPROVE YOUR 5K AND 10K TIMES

It's a new season, with new goals, numerous road races in the area, and the National Corporate Cup Meet on the way. If you have experienced the satisfaction of completing a road race at regionals or in your area — you may be ready for a new goal — to run one faster. A proper and well-organized training program will allow you to run faster 5K or 10K times.

These distances require a nice mixture of both speed and endurance. A well-balanced, well-timed program will enable you to run faster with less effort and maintain your pace to the finish line. So how do you run a faster road race? What type of training should you do? How much improvement can you expect? How long will it take before you will see results? To answer these questions, let's think about our physiology and, scientifically, how your body needs to change. Scientific research shows that you can train your body to run faster in a variety of ways and several training effects. These studies also show certain training principles to be more effective ways to enhance performance.

Most studies recommend training methods that will produce certain changes or training "effects" in your body that will result in improved running performance. The consensus of these studies indicate that there are primarily three physiological factors which influence your performance and that improving any of them will enhance your performance. These three training effects are (1) increasing your aerobic capacity, (2) developing your anaerobic tolerance, and (3) improving your efficiency or form.

Proper use of a variety of training methods directed at achieving any one of these training effects can result in improved race times. Furthermore, incorporating the right mixture of training techniques geared to attaining these three effects will result in dramatic improvement.

Remember that different race distances place different physiological demands on your body. Thus, the proper combination of training strategies depends on the distance of the race for which you are training. For example, the marathon or mile are quite different from the demands of a 5K or 10K race, but all require the three training effects. Marathon training needs some anaerobic tolerance and running efficiency but emphasizes increasing aerobic capacity or endurance. On the other hand, the mile requires some aerobic capacity, but training focuses on improving anaerobic tolerance and efficiency or form. Likewise, the 5K or 10K requires a unique blend of training principles.

Aerobic Capacity

Your aerobic capacity is your ability to take in, process, and use oxygen to produce energy needed by your muscles to run. When your body relies on oxygen as the single energy source to run, you are running "aerobically" or with oxygen. This is measured in terms of VO 2 max, which stands for maximum volume of oxygen uptake.

Distance-running performance greatly depends upon the capability of your body to process and utilize oxygen efficiently. Therefore, this establishes your upper limit for your distance-running performances. Most coaches and exercise physiologists agree that aerobic capacity is the most significant indicator of distance running potential. This is partially hereditary, but only through proper training can a person approach full potential.

The most obvious way to increase your aerobic capacity is by increasing your training volume or average weekly mileage. Keep in mind that increasing your mileage too fast will increase your chances of getting injured and overstress your body.

A general rule of thumb is never to increase your weekly mileage more than 10% per week. For example, if you are running 20 miles per week, you can safely increase your mileage to 22 the first week, 24 the second week, 26 the third, and so on. It's a good idea to take 1 week to cut back during this building phase.

Instead of continually increasing, you would run 22, 24, 26, 28, 22, 28 and 30. This allows your body a break to fully adapt to the new training demands before increasing again.

Training runs are the meat and potatoes of preparing for your races. Logging in these miles prepares your body to last through a race. Your training pace is a comfortable, everyday pace — the normal speed you settle into when going out for a run. It's not a pace where you feel like you are pushing it or such a slow one that you don't feel like you are doing anything. Your weekly schedule should include 3–4 days of training runs.

A "**long run**" is another factor in increasing aerobic capacity. It's a good idea to incorporate one long run into your weekly plan. Long runs teach you how to pace your body and mind. They give you feedback on your natural stride length and rate. Not only do long runs build endurance but also confidence. Long runs

Training Tips for Long Distance

- ☐ Make warm-ups, cool-downs, and stretching an integral part of your routine
- ☐ Wear shoes that fit properly and provide good support
- ☐ Establish a consistent and progressive training routine
- ☐ Build your aerobic capacity by increasing your weekly mileage, but no more than 10% per week
- ☐ Include a long run in your weekly routine
- ☐ Begin incorporating some speed work into your workout about 12 weeks before your big race
- ☐ Use speed work such as track intervals, hill intervals, fartlek, and tempo runs to build strength and anaerobic tolerance
- ☐ Run with someone faster than you occasionally
- ☐ Work on proper form for efficiency
- ☐ Take a rest day or easy day at least once or twice a week
- ☐ Listen to your body; back off if you become overtired and aren't able to recover fully from your workouts
- ☐ Use ice, stretching, rest, and anti-inflammatories to treat sore muscles and minor injuries (before they become major injuries)
- ☐ Eat a well-balanced diet, with at least 65% of your calories from carbohydrates and fewer than 25% of your calories from fats.
- ☐ Keep plenty of fluids in your body, especially in hot weather
- ☐ Visualize yourself running the way you would like to, and find ways to give yourself positive feedback for any progress you make

Race Week and Race Day Preparation

- ☐ Taper back on your mileage beginning the week before you race to rest and replenish yourself
- ☐ Do your last speed workout 3 to 5 days before your race
- ☐ Take it easy the 2 days before race day
- ☐ If the race is in the early morning, do a few prerace workouts at that time of the day
- ☐ Determine your goal and strategy and picture yourself doing exactly that
- ☐ Don't experiment with sports drinks before or during a race unless you know your body can handle them
- ☐ Warm up about 15 to 20 minutes before race time in adequate clothing to stay warm. Do sufficient jogging to work up a beginning perspiration. Then stretch and do a few sets of 100-meter strides at race pace or slightly faster
- ☐ Keep moving after your warm-up so that you stay loose and warm. Keep your warm-ups on until just before the race starts
- ☐ Stay as relaxed as possible; the excitement of the race will give you all the adrenaline you need
- ☐ Tie your shoes in double knots
- ☐ Don't go out too fast; pace your first mile at no more that 10 seconds faster than your race pace goal
- ☐ Familiarize yourself with the course so you know what to expect (hills, sharp turns, rough surfaces, etc.)
- ☐ Give yourself positive feedback before and during the race ("I am prepared mentally and physically to have a good race")

should be done at a relaxed pace.

Increasing mileage will have a significant effect on your aerobic capacity, but many runners can't handle the higher mileage or don't have the time in their schedules. A final way to increase aerobic capacity is to increase the intensity of your training. The faster you run, the greater your intensity is—and the greater the percentage of your maximum aerobic capacity or VO 2 at which you are running. This principle interacts with the second training principle—increasing your anaerobic tolerance.

Develop Anaerobic Tolerance

When you run "anaerobically" (without oxygen), your energy isn't from oxygen but from the breakdown of glycogen into lactic acid. This happens when your body needs more oxygen than it can produce. In an attempt to provide the energy to run, your body breaks down muscle glycogen. This results in the buildup of lactic acid in your leg muscles, which forces your body to slow down and causes your legs to feel fatigued.

Developing a greater anaerobic tolerance through different types of "speed work" will allow you to run at a faster pace or high intensity for a longer time and with less effort. Therefore, this is

Quantity Chart for 5K/10K Intervals

Weekly Mileage	Number of Repeats Per 400M	800M	1,200M	1,600M
20	6	3	2	—
22	6	3	2	—
24	7	3	2	2
26	7	4	2	2
28	8	4	3	2
30	8	4	3	2
32	9	4	3	2
34	10	5	3	2
36	10	5	3	3
38	11	5	4	3
40	11	6	4	3
42	12	6	4	3
44	12	6	4	3
46	13	6	4	3
48	13	7	4	3
50	14	7	5	4
52	15	7	5	4
54	15	8	5	4
56	16	8	5	4
58	16	8	5	4
60	17	8	6	4
64	18	9	6	4
68	19	10	6	5
72	20	10	7	5
76	22	11	8	6
80+	24	12	8	6

You can combine distances instead of running the same distance for the entire workout as long as the total miles done for "speed work" is 7%-8% of your total weekly mileage. A good example is to do a pyramid workout. If your weekly mileage is 40, your workout would look like this—400M, 800M, 1,200M, 1,200M, 800M, 400M. Your recovery period is about one-half of the "speed work" distance or until your heart rate is at the intensity it would be on a training run.

one of the training effects necessary for better running performances.

"**Speed work**"—This is running faster than your normal training pace. The different types include intervals, hill work, fartlek, and tempo runs. Because you are putting extra stress on your body with speed work, it is extra important to warm-up, cool down, and stretch (basic parts of every work out), or you may be flirting with injury.

Intervals—These break down the running and rest periods into separate blocks that allow you to run at a desired intensity and rest before beginning again.

- Generally these are done on a track using 400, 800, 1,200, and 1,600 meters (1 lap = 400 meters or 1/4-mile).
- You should run intervals at your current race pace or slightly faster. See Pace Chart.
- Rest periods are the same, or one-half, the distance and done at an easy jog or walk.
- The maximum number of intervals you should run is based on your weekly mileage. Run 7%–8% of your weekly mileage for your interval workouts. For example, if you run an average of 40 miles per week — 7%–8% of that is 2.8–3.2 miles. So you could do 12 x 400 meters (3 miles), or 6 x 800 meters (3 miles), or 4 x 1,200 meters, or 3 x 1,600 meters, or any combination of these with the speed/intense mileage equal to 2.8-3.2 miles. See Quantity Chart.

Hill work—Even if all road races had flat courses, you would still benefit from running hills; you would develop strength and improve your running form. Find a hill 200 meters or longer (or you can use a loop with rolling hills). Run at race pace effort (not time) up the hill and recover with an easy jog down. Start out easy and build up gradually to maintain energy and make it to the top. To run hills, lean slightly forward without bending at the waist, take shorter steps, lift knees more, and pump arms harder.

Fartlek—This is a Swedish term for speed play that is spontaneous and creative. Most of you have probably done this to get through a green light or to catch or impress someone. You picked up the pace and then settled down to a slower than normal pace to let your body recover. Fartlek runs are training runs interspersed with sessions where you speed up. You should run four or more of these bursts ranging from 50 yards up to a mile and then recover at a slower than normal pace for the same amount of time/distance or until you are ready for another burst. You can use time (minutes) or distances (such as blocks or telephone poles).

Tempo runs—Other forms of speed work are great for building speed and power but have limits; hard running lasts for no more than 7–8 minutes, where a 5K typically ranges from 17-25 minutes and a 10K from 35-45 minutes. What is going to help you stay on pace for the entire race? This is where a tempo run is beneficial. These are runs faster than training pace but not quite at race pace. A good rule of thumb is to run these about 20

Pace Chart for 5K/10K Interval Workouts

5K Time	Interval Pace per 400M	800M	1,200M	1,600M	5K Time	Interval Pace per 400M	800M	1,200M	1,600M
13:08	63	2:06	3:09	4:12	18:08	87	2:54	4:21	5:48
13:20	64	2:08	3:12	4:16	18:20	88	2:56	4:24	5:52
13:33	65	2:10	3:15	4:20	18:33	89	2:58	4:27	5:56
13:45	66	2:12	3:18	4:24	18:45	90	3:00	4:30	6:00
13:57	67	2:14	3:21	4:28	19:10	92	3:04	4:36	6:08
14:10	68	2:16	3:24	4:32	19:35	94	3:08	4:42	6:16
14:22	69	2:18	3:27	4:36	20:00	96	3:12	4:48	6:24
14:35	70	2:20	3:30	4:40	20:25	98	3:16	4:54	6:32
14:47	71	2:22	3:33	4:44	20:50	1:40	3:20	5:00	6:40
15:00	72	2:24	3:36	4:48	21:15	1:42	3:24	5:06	6:48
15:12	73	2:26	3:39	4:52	21:40	1:44	3:28	5:12	6:56
15:25	74	2:28	3:42	4:56	22:05	1:46	3:32	5:18	7:04
15:37	75	2:30	3:45	5:00	22:30	1:48	3:36	5:24	7:12
15:50	76	2:32	3:48	5:04	22:55	1:50	3:40	5:30	7:20
16:02	77	2:34	3:51	5:08	23:20	1:52	3:44	5:36	7:28
16:15	78	2:36	3:54	5:12	23:45	1:54	3:48	5:42	7:36
16:27	79	2:38	3:57	5:16	24:10	1:56	3:52	5:48	7:42
16:40	80	2:40	4:00	5:20	24:35	1:58	3:56	5:54	7:52
16:52	81	2:42	4:03	5:24	25:00	2:00	4:00	6:00	8:00
17:05	82	2:44	4:06	5:28	25:25	2:02	4:04	6:06	8:08
17:17	83	2:46	4:09	5:32	25:50	2:04	4:08	6:12	8:16
17:30	84	2:48	4:12	5:36	26:15	2:06	4:12	6:18	8:24
17:42	85	2:50	4:15	5:40	26:40	2:08	4:16	6:24	8:32
17:55	86	2:52	4:18	5:44					

These times are used to train for road races—not track races.

seconds slower than race pace. For instance, if your race pace is 7 minutes then you want to do a tempo run at a 7:20 pace. If you are training for a 5K, run 3 miles at this pace or—for a 10K run—5–6 miles. Always precede these runs with a warm-up mile, and then follow them with a cool-down mile. DO NOT run these at race pace—you will burn yourself out and risk injury. Save it for race day.

Develop Your Form

Good form is efficient form and vice versa. Correct technique opens the door to greater speed, comfort, and safety. A good running style involves a blend of all separate movements of the legs, torso, and arms so that you run with optimal mechanical efficiency. Generally speaking, good form looks "smooth."

Good form does not guarantee a personal record, but a poor style can definitely detract from your potential. To analyze and improve your style, you need to assess the parts of your body as they relate to running smoothly. Let's break these down and

start at the top.

Head — Keep it poised over the shoulders and hips (good posture).

Shoulders and upper arms — Keep them relaxed. They basically provide balance and prevent your torso from rotating side to side (which wastes energy). Keep your shoulders above hips—don't hunch forward or thrust your chest forward.

Lower arms — Match your arm swing with your leg action. Keep your elbows close to your sides to minimize the tendency for horizontal movement. Elbows should remain flexed at about 90 degrees through the full range of the arm swing for most speeds.

Hands — Keep your hands relaxed but not limp.

Hips and pelvis — Flexibility and strength here are crucial to good running form. Lack of flexibility in the hip joint limits stride length. By increasing your mobility, you can run a more vertical, energy-efficient style. The hip/pelvis area accommodates the large muscles that generate the powerful force from the push-off foot and forward striding leg, so strength here is a key factor.

Ankle — Increase flexibility. Good mobility increases stride length and power. A good exercise for both strength and flexibility is the "alphabet." (Use your ankle to go through motion of all the letters in the alphabet).

Feet — Run straight. Try to run in a straight line or so your foot placements are parallel to each other to reduce the rotation or twisting.

By improving your form, not only do you look better, but you also perform better. Poor form wastes energy that you could be using to run faster. A good tool to help you improve form is to video yourself and other runners. Sometimes we actually have to see how we look to see what needs work. Everyone has both good points and points that need attention.

It Does Work

Yes, training takes some time and hard work, but a well-organized and proper training schedule will have you running faster times with less effort. As coach for the Principal team, it has been a great pleasure watching runners improve over the 2 years that I have been working with them. In the past, our company had simply asked people to volunteer to compete in the regional meet. There were no organized practices, and at times people didn't even know the person who was handing them the baton.

In the past 2 years we have had a track club. We start in early March with interval training on the track (road racers along with sprinters and middle-distance runners) and continue through the summer until Nationals. We take a break and start September 1 with more of a cross-country style thatincludes fartleks, hill workouts, and tempo runs.

Success Story

One of our 5K runners is living proof of what consistency, hard work, and determination can do for your training. Karla Van Hall started running about 5 years ago and had participated in several road races. She ran about an 8:30 mile. Two years ago, when the national meet was in Des Moines, we organized a few workouts, and she placed in her age group running a 23:11 5K—which is around a 7:30 pace. That inspired her to continue the speed workouts and her training. This past summer Karla was the overall winner of the Women's 10K at regionals, and ran a 5K P.R. of 19:55 (about 6:30 pace) at nationals. This summer she also improved her 20K time by 20 minutes in comparison to her 1990 time. This fall she did her first marathon (Twin Cities) in 3:37. Way to go, Karla!