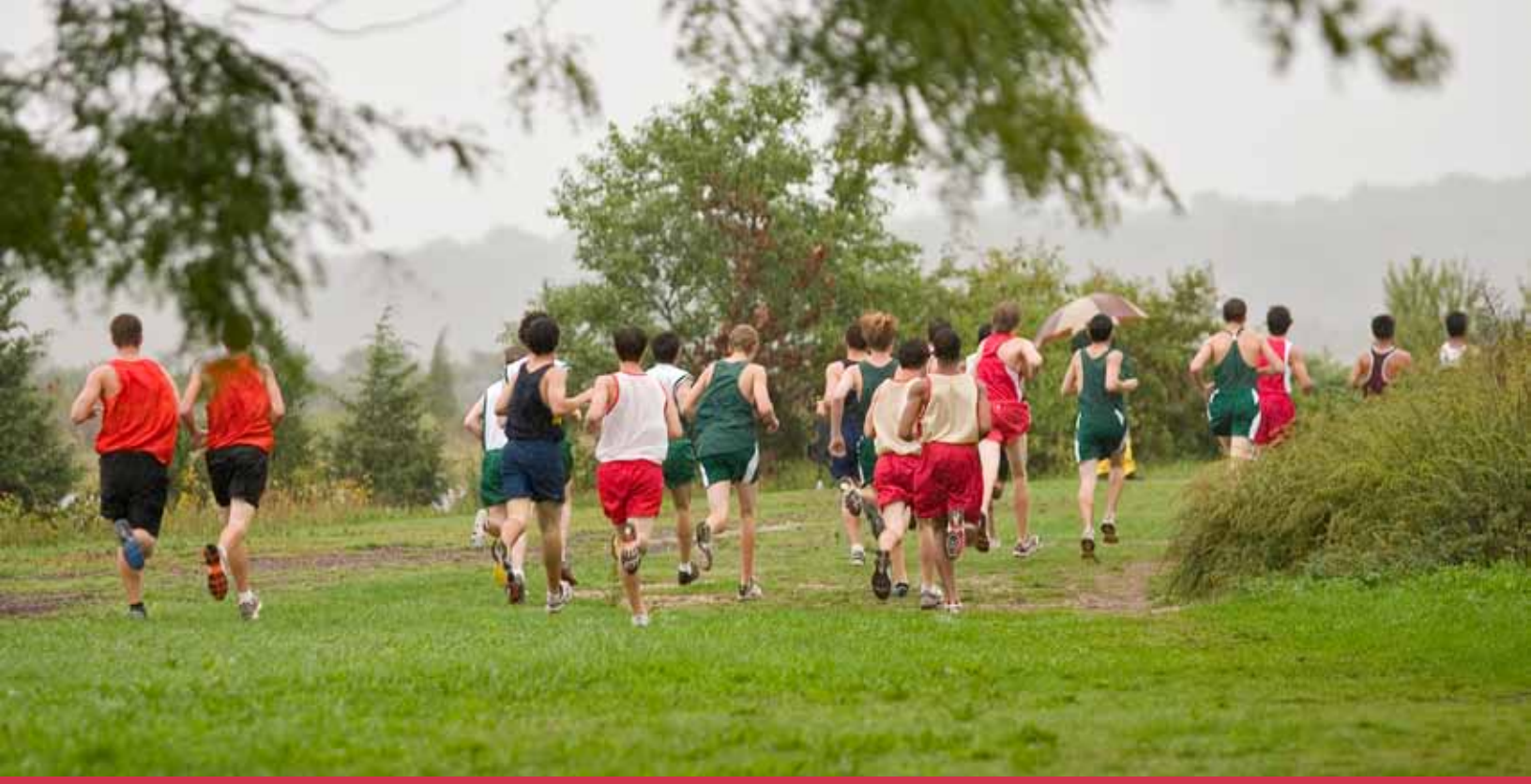

10K Advanced Competitive Program Ten Week - High Effort

One Workout Per Day

Running Planet's
Semi Custom Training Programs

College of Running Book Series

Program Overview

This is a 10 week high training effort 10K competitive program that uses one workout per day/seven days per week. This 10K training program that is designed for advanced and experienced competitive runners. This program includes high intensity workouts, weekly long training runs and high intensity strength training. The 10 week program begins with a long run base of 8 miles.

Running Workouts

There are ten specific types of running workouts in your program:

- Endurance Runs - This type of run is also known as aerobic conditioning. Endurance runs make up the highest percentage of overall mileage for a distance runner. Endurance runs build your overall endurance, increase your blood volume, improve your ability to store energy supplying fuel, and improves the ability of your system to deliver oxygen to your muscles. These workouts are performed at about 55 to 75 percent of your VO_2 max (your body's ability to process oxygen). This pace should feel easy and "conversational" in nature.

- Lactate Turnpoint Runs - These workouts, which are also called anaerobic conditioning, are intended to improve your body's ability to process accumulating lactic acid to produce energy. They also improve your ability to continue to run with rising potassium levels (a cause of running fatigue). LT runs are typically performed at between 75 percent and 90 percent of your VO_2 max. Your LT pace is about 2 to 4 percent slower than 10K pace. These workouts are performed at or near 10K race pace because you are flooding your system with lactic acid and potassium at that pace, which makes 10K pace very efficient at improving your LT.

- Tempo Runs - Tempo runs are moderate to long distance run that are performed at between marathon pace and about 15 seconds per mile slower than 10K pace. Tempo training intensity is slightly less than lactate turn point intensity. The purpose of tempo running is to improve your ability to run long distances at paces that produce a significant amount of metabolites without the limiting factor of reaching your lactate turn point.

- Progressive Runs - Progressive runs are a workout that combines endurance training, tempo training, lactate turn point training. When performing progressive runs you should start at an easy endurance pace and gradually increase your pace through out your training run. Increase from endurance pace to lactate turnpoint or goal 10K pace through all but the final mile of your progressive run. Then increase your pace to speed pace for the final mile. For example, if you are doing a 6 mile progressive run you should start at endurance pace and gradually speed up to goal 10K pace through the first 5 miles. Then speed up to goal speed pace for the final mile. Finish your progressive run with a 400 meter sprint.

- Speed Runs - These workouts are also known as aerobic capacity training. Speed runs are performed at between 90% and 100% of your VO2 max which is between your 5K race pace and your 3K race pace. Improving this pace will increase your fitness, speed, endurance and speed endurance.

- Sprint Training - This workout is not the same type of high intensity running that a sprinter would do. Sprint training for a distance runner involves running at very high intensities of between 100 and 125 percent of VO2 max. These workouts should be performed at a nearly "all out' but relaxed pace. You should concentrate on maintaining good form and a smooth, fluid stride. The purpose of these types of workouts are to improve your top running speed, running strength, running economy and neuromuscular conditioning or the ability of your brain to communicate with your muscles.

- Hill Training - One of the best ways to improve your running strength and running economy is through the use of hill running. Hill running also helps improve your LT pace

- Long Runs - These runs improve your endurance, goal pace endurance and mental toughness. They also improve your body's ability to burn fat as fuel and conserve carbohydrates. Long runs are performed at an easy pace, goal pace or a combination of the two paces.

- Goal Pace Training - One of the most important and often forgotten competitive training paces is goal pace running. Goal pace training will improve your goal specific neuromuscular function and make you a more efficient runner at goal pace.

- Strides - Strides are a form of sprint training that is often done just before a post training cool down. In this program, strides are 100 meter runs in which you start your stride at a moderate pace and smoothly accelerate to full sprint pace at about 80 meters. You then use your forward momentum to "coast" the final 20 meters.

Strength Workouts

The second category of workouts in your training program are strength workouts. Strength training is important for runners because it helps prevent injury, improve your impact resistance, improve your running economy and build your speed and power. Strength training workouts fall into one of three types:

- General Strength - General strength workouts build your overall body strength and provide a base for the more specific types of strength training.

- Running Specific Strength - These are strength building exercises that target your running specific motions and muscles

- Plyometrics - Plyometrics are high intensity strength exercises and drills that are explosive in nature and are great for improving running economy and power.

Your Training Paces

This program uses 6 different training paces. These 5 paces are the critical paces for improving running performance. The five training paces are:

- Endurance Pace - This pace, which makes up the majority of your training mileage, is usually done at between 1:30 and 3 minutes slower than your 10K goal pace. This is the only training pace where your exact speed is not important - as long as you do not run too fast. Rather than try for a specific pace, perform all of your endurance pace runs at an intensity that feels easy. They should be "conversational" in nature, meaning you should be able to carry on a conversation while you are running. Judging your pace by feel rather than pace will insure that you are running at a pace that is easy enough to gain the benefits of endurance workouts and also that you are able to recover from your more intense workouts.

- Goal Pace - This is the pace you must maintain to meet your 10K goal time. The table lists your training pace in both minute per mile and minutes per kilometer.

- Lactate Turnpoint Pace - Your lactate turnpoint pace (LT) is the pace at which your body begins to accumulate lactic acid and potassium faster than your body can process it. This occurs at paces just slightly slower than your 10K race pace or about 20 seconds per mile slower than your 5K pace. Lactate turn point training is especially valuable for 10K training because it is performed at your goal 10K pace and is very specific towards 10K racing.

- Tempo Pace - For the purposes of this program your tempo pace is an estimated pace that should be about 20 seconds per mile slower than your 10K race pace. The pace table gives your tempo pace in both minutes per mile and minutes per kilometer.

- Speed Pace - In this program your speed pace is a high intensity pace that is faster than your 5K race pace or very close to your 3K race pace. This should be the approximate pace at which you reach your vVO_2 max or the minimum velocity at which you reach your maximal oxygen uptake. Running at this pace will improve your VO_2 max, neuromuscular conditioning and speed.

- Sprint Pace - Some workouts call for running at nearly an all out or full pace. This is a distance runners sprint pace. There is not an exact speed for this type of workout. You should run at nearly full speed. Your pace should be the maximum pace you can maintain for the repeat. Your stride should remain relaxed, smooth and fluid. You should be running at a very hard pace but should never be straining or struggling at this pace. For most runners this pace should be very close to 800 meter race pace.

It is very difficult and not really necessary to maintain these exact training paces throughout your workouts. Instead, try to stay within 3 seconds of each training pace.

Goal 10K Time	Goal/LT Pace Per Mile	Goal/LT Pace Per Kilo	Speed Pace Per Mile	Speed Pace Per Kilo	Tempo Pace Per Mile	Tempo Pace Per Kilo
0:26:00	0:04:12	02:36	0:03:48	0:02:21	0:04:32	0:02:48
0:26:10	0:04:13	02:37	0:03:49	0:02:22	0:04:33	0:02:49
0:26:20	0:04:15	02:38	0:03:51	0:02:23	0:04:35	0:02:50
0:26:30	0:04:16	02:39	0:03:52	0:02:24	0:04:36	0:02:51
0:26:40	0:04:18	02:40	0:03:54	0:02:25	0:04:38	0:02:52
0:26:50	0:04:20	02:41	0:03:56	0:02:26	0:04:40	0:02:53
0:27:00	0:04:21	02:42	0:03:57	0:02:27	0:04:41	0:02:54
0:27:10	0:04:23	02:43	0:03:59	0:02:28	0:04:43	0:02:55
0:27:20	0:04:25	02:44	0:04:00	0:02:29	0:04:45	0:02:56
0:27:30	0:04:26	02:45	0:04:02	0:02:30	0:04:46	0:02:57
0:27:40	0:04:28	02:46	0:04:04	0:02:31	0:04:48	0:02:58
0:27:50	0:04:29	02:47	0:04:05	0:02:32	0:04:49	0:02:59
0:28:00	0:04:31	02:48	0:04:07	0:02:33	0:04:51	0:03:00
0:28:10	0:04:33	02:49	0:04:09	0:02:34	0:04:53	0:03:01
0:28:20	0:04:34	02:50	0:04:10	0:02:35	0:04:54	0:03:02
0:28:30	0:04:36	02:51	0:04:12	0:02:36	0:04:56	0:03:03
0:28:40	0:04:37	02:52	0:04:13	0:02:37	0:04:57	0:03:04
0:28:50	0:04:39	02:53	0:04:15	0:02:38	0:04:59	0:03:05
0:29:00	0:04:41	02:54	0:04:17	0:02:39	0:05:00	0:03:06
0:29:10	0:04:42	02:55	0:04:18	0:02:40	0:05:02	0:03:07
0:29:20	0:04:44	02:56	0:04:20	0:02:41	0:05:04	0:03:08
0:29:30	0:04:45	02:57	0:04:21	0:02:42	0:05:05	0:03:09
0:29:40	0:04:47	02:58	0:04:23	0:02:43	0:05:07	0:03:10
0:29:50	0:04:49	02:59	0:04:25	0:02:44	0:05:09	0:03:11
0:30:00	0:04:50	03:00	0:04:26	0:02:45	0:05:10	0:03:12
0:30:10	0:04:52	03:01	0:04:28	0:02:46	0:05:12	0:03:13
0:30:20	0:04:54	03:02	0:04:30	0:02:47	0:05:14	0:03:14
0:30:30	0:04:55	03:03	0:04:31	0:02:48	0:05:15	0:03:15
0:30:40	0:04:57	03:04	0:04:33	0:02:49	0:05:17	0:03:16
0:30:50	0:04:58	03:05	0:04:34	0:02:50	0:05:18	0:03:17
0:31:00	0:05:00	03:06	0:04:36	0:02:51	0:05:20	0:03:18
0:31:10	0:05:02	03:07	0:04:38	0:02:52	0:05:22	0:03:19
0:31:20	0:05:03	03:08	0:04:39	0:02:53	0:05:23	0:03:20
0:31:30	0:05:05	03:09	0:04:41	0:02:54	0:05:25	0:03:21
0:31:40	0:05:06	03:10	0:04:42	0:02:55	0:05:26	0:03:22
0:31:50	0:05:08	03:11	0:04:44	0:02:56	0:05:28	0:03:23
0:32:00	0:05:010	03:12	0:04:46	0:02:57	0:05:30	0:03:24
0:32:10	0:05:11	03:13	0:04:47	0:02:58	0:05:31	0:03:25
0:32:20	0:05:13	03:14	0:04:49	0:02:59	0:05:33	0:03:26
0:32:30	0:05:15	03:15	0:04:51	0:03:00	0:05:35	0:03:27

Goal 10K Time	Goal/LT Pace Per Mile	Goal/LT Pace Per Kilo	Speed Pace Per Mile	Speed Pace Per Kilo	Tempo Pace Per Mile	Tempo Pace Per Kilo
0:32:40	0:05:16	03:16	0:04:52	0:03:01	0:05:36	0:03:28
0:32:50	0:05:18	03:17	0:04:54	0:03:02	0:05:38	0:03:29
0:33:00	0:05:19	03:18	0:04:55	0:03:03	0:05:39	0:03:30
0:33:10	0:05:21	03:19	0:04:57	0:03:04	0:05:41	0:03:31
0:33:20	0:05:23	03:20	0:04:59	0:03:05	0:05:43	0:03:32
0:33:30	0:05:24	03:21	0:05:00	0:03:06	0:05:44	0:03:33
0:33:40	0:05:26	03:22	0:05:02	0:03:07	0:05:46	0:03:34
0:33:50	0:05:27	03:23	0:05:03	0:03:08	0:05:47	0:03:35
0:34:00	0:05:29	03:24	0:05:05	0:03:09	0:05:49	0:03:36
0:34:10	0:05:31	03:25	0:05:07	0:03:10	0:05:51	0:03:37
0:34:20	0:05:32	03:26	0:05:08	0:03:11	0:05:52	0:03:38
0:34:30	0:05:34	03:27	0:05:010	0:03:12	0:05:54	0:03:39
0:34:40	0:05:35	03:28	0:05:11	0:03:13	0:05:55	0:03:40
0:34:50	0:05:37	03:29	0:05:13	0:03:14	0:05:57	0:03:41
0:35:00	0:05:39	03:30	0:05:15	0:03:15	0:05:59	0:03:42
0:35:10	0:05:40	03:31	0:05:16	0:03:16	0:06:00	0:03:43
0:35:20	0:05:42	03:32	0:05:18	0:03:17	0:06:02	0:03:44
0:35:30	0:05:44	03:33	0:05:20	0:03:18	0:06:04	0:03:45
0:35:40	0:05:45	03:34	0:05:21	0:03:19	0:06:05	0:03:46
0:35:50	0:05:47	03:35	0:05:23	0:03:20	0:06:07	0:03:47
0:36:00	0:05:48	03:36	0:05:24	0:03:21	0:06:08	0:03:48
0:36:10	0:05:50	03:37	0:05:26	0:03:22	0:06:10	0:03:49
0:36:20	0:05:52	03:38	0:05:28	0:03:23	0:06:12	0:03:50
0:36:30	0:05:53	03:39	0:05:29	0:03:24	0:06:13	0:03:51
0:36:40	0:05:55	03:40	0:05:31	0:03:25	0:06:15	0:03:52
0:36:50	0:05:56	03:41	0:05:32	0:03:26	0:06:16	0:03:53
0:37:00	0:05:58	03:42	0:05:34	0:03:27	0:06:18	0:03:54
0:37:10	0:05:60	03:43	0:05:36	0:03:28	0:06:20	0:03:55
0:37:20	0:06:01	03:44	0:05:37	0:03:29	0:06:21	0:03:56
0:37:30	0:06:03	03:45	0:05:39	0:03:30	0:06:23	0:03:57
0:37:40	0:06:05	03:46	0:05:41	0:03:31	0:06:25	0:03:58
0:37:50	0:06:06	03:47	0:05:42	0:03:32	0:06:26	0:03:59
0:38:00	0:06:08	03:48	0:05:44	0:03:33	0:06:28	0:04:00
0:38:10	0:06:09	03:49	0:05:45	0:03:34	0:06:29	0:04:01
0:38:20	0:06:11	03:50	0:05:47	0:03:35	0:06:31	0:04:02
0:38:30	0:06:13	03:51	0:05:49	0:03:36	0:06:33	0:04:03
0:38:40	0:06:14	03:52	0:05:50	0:03:37	0:06:34	0:04:04
0:38:50	0:06:16	03:53	0:05:52	0:03:38	0:06:36	0:04:05
0:39:00	0:06:17	03:54	0:05:53	0:03:39	0:06:37	0:04:06
0:39:10	0:06:19	03:55	0:05:55	0:03:40	0:06:39	0:04:07

Goal 10K Time	Goal/LT Pace Per Mile	Goal/LT Pace Per Kilo	Speed Pace Per Mile	Speed Pace Per Kilo	Tempo Pace Per Mile	Tempo Pace Per Kilo
0:39:20	0:06:21	03:56	0:05:57	0:03:41	0:06:41	0:04:08
0:39:30	0:06:22	03:57	0:05:58	0:03:42	0:06:42	0:04:09
0:39:40	0:06:24	03:58	0:05:60	0:03:43	0:06:44	0:04:10
0:39:50	0:06:25	03:59	0:06:01	0:03:44	0:06:45	0:04:11
0:40:00	0:06:27	04:00	0:06:03	0:03:45	0:06:47	0:04:12
0:40:10	0:06:29	04:01	0:06:05	0:03:46	0:06:49	0:04:13
0:40:20	0:06:30	04:02	0:06:06	0:03:47	0:06:50	0:04:14
0:40:30	0:06:32	04:03	0:06:08	0:03:48	0:06:52	0:04:15
0:40:40	0:06:34	04:04	0:06:010	0:03:49	0:06:54	0:04:16
0:40:50	0:06:35	04:05	0:06:11	0:03:50	0:06:55	0:04:17
0:41:00	0:06:37	04:06	0:06:13	0:03:51	0:06:57	0:04:18
0:41:10	0:06:38	04:07	0:06:14	0:03:52	0:06:58	0:04:19
0:41:20	0:06:40	04:08	0:06:16	0:03:53	0:07:00	0:04:20
0:41:30	0:06:42	04:09	0:06:18	0:03:54	0:07:02	0:04:21
0:41:40	0:06:43	04:10	0:06:19	0:03:55	0:07:03	0:04:22
0:41:50	0:06:45	04:11	0:06:21	0:03:56	0:07:05	0:04:23
0:42:00	0:06:46	04:12	0:06:22	0:03:57	0:07:06	0:04:24
0:42:10	0:06:48	04:13	0:06:24	0:03:58	0:07:08	0:04:25
0:42:20	0:06:50	04:14	0:06:26	0:03:59	0:07:10	0:04:26
0:42:30	0:06:51	04:15	0:06:27	0:04:00	0:07:11	0:04:27
0:42:40	0:06:53	04:16	0:06:29	0:04:01	0:07:13	0:04:28
0:42:50	0:06:55	04:17	0:06:31	0:04:02	0:07:15	0:04:29
0:43:00	0:06:56	04:18	0:06:32	0:04:03	0:07:16	0:04:30
0:43:10	0:06:58	04:19	0:06:34	0:04:04	0:07:18	0:04:31
0:43:20	0:06:59	04:20	0:06:35	0:04:05	0:07:19	0:04:32
0:43:30	0:07:00	04:21	0:06:37	0:04:06	0:07:21	0:04:33
0:43:40	0:07:03	04:22	0:06:39	0:04:07	0:07:23	0:04:34
0:43:50	0:07:04	04:23	0:06:40	0:04:08	0:07:24	0:04:35
0:44:00	0:07:06	04:24	0:06:42	0:04:09	0:07:26	0:04:36
0:44:10	0:07:07	04:25	0:06:43	0:04:10	0:07:27	0:04:37
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0:44:30	0:07:11	04:27	0:06:47	0:04:12	0:07:31	0:04:39
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0:45:00	0:07:15	04:30	0:06:51	0:04:15	0:07:35	0:04:42
0:45:10	0:07:17	04:31	0:06:53	0:04:16	0:07:37	0:04:43
0:45:20	0:07:19	04:32	0:06:55	0:04:17	0:07:39	0:04:44
0:45:30	0:07:20	04:33	0:06:56	0:04:18	0:07:40	0:04:45
0:45:40	0:07:22	04:34	0:06:58	0:04:19	0:07:42	0:04:46
0:45:50	0:07:24	04:35	0:06:60	0:04:20	0:07:44	0:04:47

Goal 10K Time	Goal/LT Pace Per Mile	Goal/LT Pace Per Kilo	Speed Pace Per Mile	Speed Pace Per Kilo	Tempo Pace Per Mile	Tempo Pace Per Kilo
0:46:00	0:07:25	04:36	0:07:01	0:04:21	0:07:45	0:04:48
0:46:10	0:07:27	04:37	0:07:03	0:04:22	0:07:47	0:04:49
0:46:20	0:07:28	04:38	0:07:04	0:04:23	0:07:48	0:04:50
0:46:30	0:07:30	04:39	0:07:06	0:04:24	0:07:50	0:04:51
0:46:40	0:07:32	04:40	0:07:08	0:04:25	0:07:52	0:04:52
0:46:50	0:07:33	04:41	0:07:09	0:04:26	0:07:53	0:04:53
0:47:00	0:07:35	04:42	0:07:11	0:04:27	0:07:55	0:04:54
0:47:10	0:07:36	04:43	0:07:12	0:04:28	0:07:56	0:04:55
0:47:20	0:07:38	04:44	0:07:14	0:04:29	0:07:58	0:04:56
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0:48:40	0:07:51	04:52	0:07:27	0:04:37	0:08:11	0:05:04
0:48:50	0:07:53	04:53	0:07:29	0:04:38	0:08:13	0:05:05
0:49:00	0:07:54	04:54	0:07:30	0:04:39	0:08:14	0:05:06
0:49:10	0:07:56	04:55	0:07:32	0:04:40	0:08:16	0:05:07
0:49:20	0:07:57	04:56	0:07:33	0:04:41	0:08:17	0:05:08
0:49:50	0:08:02	04:59	0:07:38	0:04:44	0:08:22	0:05:11
0:50:00	0:08:04	05:00	0:07:40	0:04:45	0:08:24	0:05:12
0:50:20	0:08:07	05:02	0:07:43	0:04:47	0:08:27	0:05:14
0:50:40	0:08:10	05:04	0:07:46	0:04:49	0:08:30	0:05:16
0:51:00	0:08:14	05:06	0:07:50	0:04:51	0:08:34	0:05:18
0:51:20	0:08:17	05:08	0:07:53	0:04:53	0:08:37	0:05:20
0:51:40	0:08:20	05:10	0:07:56	0:04:55	0:08:40	0:05:22
0:52:00	0:08:23	05:12	0:07:59	0:04:57	0:08:43	0:05:24
0:52:20	0:08:26	05:14	0:08:02	0:04:59	0:08:46	0:05:26
0:52:40	0:08:30	05:16	0:08:06	0:05:01	0:08:50	0:05:28
0:53:00	0:08:33	05:18	0:08:09	0:05:03	0:08:53	0:05:30
0:53:20	0:08:36	05:20	0:08:12	0:05:05	0:08:56	0:05:32
0:53:40	0:08:39	05:22	0:08:15	0:05:07	0:08:59	0:05:34
0:54:00	0:08:43	05:24	0:08:19	0:05:09	0:09:03	0:05:36
0:54:20	0:08:46	05:26	0:08:22	0:05:11	0:09:06	0:05:38
0:54:20	0:08:46	05:26	0:08:22	0:05:11	0:09:06	0:05:38
0:55:00	0:08:52	05:30	0:08:28	0:05:15	0:09:12	0:05:42
0:55:20	0:08:55	05:32	0:08:31	0:05:17	0:09:15	0:05:44
0:55:40	0:08:59	05:34	0:08:35	0:05:19	0:09:19	0:05:46

Goal 10K Time	Goal/LT Pace Per Mile	Goal/LT Pace Per Kilo	Speed Pace Per Mile	Speed Pace Per Kilo	Tempo Pace Per Mile	Tempo Pace Per Kilo
0:56:00	0:09:02	05:36	0:08:38	0:05:21	0:09:22	0:05:48
0:56:20	0:09:05	05:38	0:08:41	0:05:23	0:09:25	0:05:50
0:56:40	0:09:08	05:40	0:08:44	0:05:25	0:09:28	0:05:52
0:57:00	0:09:12	05:42	0:08:48	0:05:27	0:09:32	0:05:54
0:57:20	0:09:15	05:44	0:08:51	0:05:29	0:09:35	0:05:56
0:57:40	0:09:18	05:46	0:08:54	0:05:31	0:09:38	0:05:58
0:58:00	0:09:21	05:48	0:08:57	0:05:33	0:09:41	0:06:00
0:58:20	0:09:25	05:50	0:09:00	0:05:35	0:09:45	0:06:02
0:58:40	0:09:28	05:52	0:09:04	0:05:37	0:09:48	0:06:04
1:00:00	0:09:41	06:00	0:09:17	0:05:45	0:10:00	0:06:12
1:01:00	0:09:50	06:06	0:09:26	0:05:51	0:10:10	0:06:18
1:02:00	0:10:00	06:12	0:09:36	0:05:57	0:10:20	0:06:24
1:03:00	0:10:010	06:18	0:09:46	0:06:03	0:10:30	0:06:30
1:04:00	0:10:19	06:24	0:09:55	0:06:09	0:10:39	0:06:36
1:05:00	0:10:29	06:30	0:10:05	0:06:15	0:10:49	0:06:42
1:06:00	0:10:39	06:36	0:10:15	0:06:21	0:10:59	0:06:48
1:07:00	0:10:48	06:42	0:10:24	0:06:27	0:11:08	0:06:54
1:08:00	0:10:58	06:48	0:10:34	0:06:33	0:11:18	0:07:00
1:09:00	0:11:08	06:54	0:10:44	0:06:39	0:11:28	0:07:06
1:10:00	0:11:17	07:00	0:10:53	0:06:45	0:11:37	0:07:12
1:11:00	0:11:27	07:06	0:11:03	0:06:51	0:11:47	0:07:18
1:12:00	0:11:37	07:12	0:11:13	0:06:57	0:11:57	0:07:24
1:13:00	0:11:46	07:18	0:11:22	0:07:03	0:12:06	0:07:30
1:14:00	0:11:56	07:24	0:11:32	0:07:09	0:12:16	0:07:36
1:15:00	0:12:06	07:30	0:11:42	0:07:15	0:12:26	0:07:42
1:16:00	0:12:15	07:36	0:11:51	0:07:21	0:12:35	0:07:48
1:17:00	0:12:25	07:42	0:12:01	0:07:27	0:12:45	0:07:54
1:18:00	0:12:35	07:48	0:12:11	0:07:33	0:12:55	0:08:00
1:19:00	0:12:45	07:54	0:12:21	0:07:39	0:13:05	0:08:06
1:20:00	0:12:54	08:00	0:12:30	0:07:45	0:13:14	0:08:12
1:21:00	0:13:04	08:06	0:12:40	0:07:51	0:13:24	0:08:18
1:22:00	0:13:14	08:12	0:12:50	0:07:57	0:13:34	0:08:24
1:23:00	0:13:23	08:18	0:12:59	0:08:03	0:13:43	0:08:30
1:24:00	0:13:33	08:24	0:13:09	0:08:09	0:13:53	0:08:36
1:25:00	0:13:43	08:30	0:13:19	0:08:15	0:14:03	0:08:42
1:26:00	0:13:52	08:36	0:13:28	0:08:21	0:14:12	0:08:48
1:27:00	0:14:02	08:42	0:13:38	0:08:27	0:14:22	0:08:54
1:28:00	0:14:12	08:48	0:13:48	0:08:33	0:14:32	0:09:00
1:29:00	0:14:21	08:54	0:13:57	0:08:39	0:14:41	0:09:06
1:30:00	0:14:31	09:00	0:14:07	0:08:45	0:14:51	0:09:12

Training Schedule - Week 1

Suggested Workout Sequence						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Easy Endurance 1 General Strength	Tempo Run Strides	Easy Endurance 2 Running Strength	Goal Pace Run Strides	Easy Endurance 3 Running Strength	Progressive Run Strides	Long Run

Running Workouts	
Workout	Description
Easy Endurance 1	6 miles or 10K at easy endurance pace
Easy Endurance 2	6 miles or 10K at easy endurance pace
Easy Endurance 3	4 miles or 6.4K at easy endurance pace
Tempo Run	Run 4 miles or 6.4K at tempo pace
Goal Pace Run	Warm up with 1600 meters at endurance pace on a 400 meter track. Then run 10 x 800 meter repeats at goal 10K pace. Recover between each repeat with 1 minute of rest
Progressive Run	Run a 6 mile or 10K progressive run.
Long Run	Run 8 miles at easy endurance pace
Strides	Run 5 x 100 meter strides

Strength Workouts	
Workout	Description
General Strength	1 set of general strength
Running Specific Strength	1 set of running strength
Plyometrics	None

Training Schedule - Week 2

Suggested Workout Sequence						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Easy Endurance 1 General Strength	Tempo Run Strides	Easy Endurance 2 Running Strength	Speed Run Strides	Easy Endurance 3 Running Strength	Hill Run Strides	Long Run

Running Workouts	
Workout	Description
Easy Endurance 1	6 miles or 10K at easy endurance pace
Easy Endurance 2	7 miles or 11K at easy endurance pace
Easy Endurance 3	5 miles or 6.4K at easy endurance pace
Tempo Run	Run 5 miles or 8K at tempo pace
Speed Run	Warm up with 1600 meters at endurance pace. Then run 1600 meters, alternating between 400 meters at speed pace and 400 meters at goal 10K pace. Take no recovery between the 200 meter repeats. Repeat this two more times for a total of three sets with 2 minutes of rest between each set. Cool down with 1600 meters at easy endurance pace.
Hill Run	Run 3 miles or 4.8K over rolling, hilly terrain. If you don't have hills in your area do this workout on the treadmill and frequently alternate the elevation.
Long Run	Run 10 miles or 16K. Run the first 8 miles or 13K at endurance pace and the final 2 miles or 3K at goal 10K pace.
Strides	Run 6 x 100 meter strides

Strength Workouts	
Workout	Description
General Strength	1 set of general strength
Running Specific Strength	1 set of running strength
Plyometrics	None

Training Schedule - Week 3

Suggested Workout Sequence						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Easy Endurance 1 General Strength	Lactate Turn Point Run Strides	Easy Endurance 2 Running Strength	Goal Pace Run Strides	Easy Endurance 3 Plyometrics	Progressive Run Strides	Long Run

Running Workouts	
Workout	Description
Easy Endurance 1	6 miles or 10K at easy endurance pace
Easy Endurance 2	8 miles or 13K at easy endurance pace
Easy Endurance 3	6 miles or 10K at easy endurance pace
Lactate Turn Point Run	After a warm up, run 4 x 600/1600/300 meter compound sets. Run the 600 meters at speed pace, the 1600 meters at goal 10K pace and the 300 meters at sprint pace. Repeat 3 more times for a total of 4 sets with 3 minutes of passive rest between each compound set.
Goal Pace Run	Warm up with 1600 meters at endurance pace on a 400 meter track. Then run 10 x 1000 meter repeats at goal 10K pace. Recover between each repeat by jogging back to the start line.
Progressive Run	Run a 7 mile or 11K progressive run
Long Run	Run 12 miles or 19K. Run the first 10 miles or 16K at endurance pace and the final 2 miles or 3K at goal 10K pace.
Strides	Run 7 x 100 meter strides

Strength Workouts	
Workout	Description
General Strength	1 set of general strength
Running Specific Strength	1 set of running strength
Plyometrics	1 set of plyometrics

Training Schedule - Week 4

Suggested Workout Sequence						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Easy Endurance 1 General Strength	Tempo Run Strides	Easy Endurance 2 Running Strength	Speed Run Strides	Easy Endurance 3 Plyometrics	Hill Run Strides	Long Run

Running Workouts	
Workout	Description
Easy Endurance 1	6 miles or 10K at easy endurance pace
Easy Endurance 2	8 miles or 13K at easy endurance pace
Easy Endurance 3	7 miles or 11K at easy endurance pace
Tempo	Run 6 miles or 10K at tempo pace
Speed Run	After a warm up, run 10 x 400 meter repeats at speed pace. Recover between each repeat with 1 minute of rest
Hill Run	After a warm up, run 8 x 400 meter hill repeats on a hill of moderate to steep elevation at goal 10K pace. Recovery by jogging down the hill. If you don't have access to hills use a treadmill at 8% elevation and recovery with 1 minute of easy running at zero elevation.
Long Run	Run 14 miles or 22.5K. Run the first 12 miles or 19.5K at endurance pace and the final 2 miles or 3K at goal 10K pace.
Strides	Run 8 x 100 meter strides

Strength Workouts	
Workout	Description
General Strength	1 set of general strength
Running Specific Strength	1 set of running strength
Plyometrics	1 set of plyometrics

Training Schedule - Week 5

Suggested Workout Sequence						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Easy Endurance 1 Running Strength	Lactate Turn Point Run Strides	Easy Endurance 2 Plyometrics	Goal Pace Run Strides	Easy Endurance 3 Running Strength	Progressive Run Strides	Long Run

Running Workouts	
Workout	Description
Easy Endurance 1	6 miles or 10K at easy endurance pace
Easy Endurance 2	9 miles or 14.5K at easy endurance pace
Easy Endurance 3	8 miles or 13K at easy endurance pace
Lactate Turn Point Run	After a warm up, run 4 x 600/1600/300 meter compound sets. Run the 600 meters at speed pace, the 1600 meters at goal 10K pace and the 300 meters at sprint pace. Repeat 3 more times for a total of 4 sets with 2 minutes of passive rest between each compound set
Goal Pace Run	After a warm up, run 10 x 1000 meter repeats at goal 10K pace. Recover between each repeat by jogging back to the start line.
Progressive Run	Run an 8 mile or 13K progressive run
Long Run	Run 16 miles or 26K. Run the first 14 miles or 23K at endurance pace and the final 2 miles or 3K at goal 10K pace.
Strides	Run 9 x 100 meter strides

Strength Workouts	
Workout	Description
General Strength	None
Running Specific Strength	1 set of running strength
Plyometrics	1 set of plyometrics

Training Schedule - Week 6

Suggested Workout Sequence						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Easy Endurance 1 Plyometrics	Tempo Run Strides	Easy Endurance 2 Running Strength	Speed Run Strides	Easy Endurance 3 Plyometrics	Hill Run Strides	Long Run

Running Workouts	
Workout	Description
Easy Endurance 1	6 miles or 10K at easy endurance pace
Easy Endurance 2	10 miles or 16K at easy endurance pace
Easy Endurance 3	8 miles or 13K at easy endurance pace
Tempo Run	Run 7 miles or 11K at tempo pace
Speed Run	After a warm up on a 400 meter track, alternate between running the straights at easy endurance pace and the corners at sprint pace. Keep up that sequence with no recovery until you can no longer maintain a quality pace.
Hill Run	Run 5 miles or 8K up a steady moderate incline at what feels like 10K pace. Your actual pace will be slower due to the incline. Run back down the hill at an easy pace. You can also do this workout on a treadmill at 5% incline.
Long Run	Run 18 miles or 29K. Run the first 16 miles or 26K at endurance pace and the final 2 miles or 3K at goal 10K pace.
Strides	Run 10 x 100 meter strides

Strength Workouts	
Workout	Description
General Strength	None
Running Specific Strength	1 set of running strength
Plyometrics	1 set of plyometrics

Training Schedule - Week 7

Suggested Workout Sequence						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Easy Endurance 1 Plyometrics	Lactate Turn Point Strides	Easy Endurance 2 Running Strength	Goal Pace Run Strides	Easy Endurance 3 Plyometrics	Progressive Run Strides	Long Run

Running Workouts	
Workout	Description
Easy Endurance 1	6 miles or 10K at easy endurance pace
Easy Endurance 2	10 miles or 16K at easy endurance pace
Easy Endurance 3	8 miles or 13K at easy endurance pace
Lactate Turn Point Run	After a warm up, run 4 x 400/1600/500 meter compound sets. Run the 400 meters at speed pace, the 1600 meters at goal 10K pace and the 500 meters at sprint pace. Repeat 3 more times for a total of 4 sets with 2 minutes of passive rest between each compound set
Goal Pace Run	After a warm up on a 400 meter track, run 4 x 2500 meter repeats at goal 10K pace. Recovery between the four sets with 2 minutes of passive rest
Progressive Run	Run a 9 mile or 14.5K progressive run
Long Run	Run 18 miles or 29K. Run the first 15 miles or 24K at endurance pace and the final 3 miles or 5K at goal 10K pace.
Strides	Run 12 x 100 meter strides

Strength Workouts	
Workout	Description
General Strength	None
Running Specific Strength	1 set of running strength
Plyometrics	1 set of plyometrics

Training Schedule - Week 8

Suggested Workout Sequence						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Easy Endurance 1 Running Strength	Tempo Run Strides	Easy Endurance 2 Plyometrics	Speed Run Strides	Easy Endurance 3 No Strength	Hill Run Strides	Long Run

Running Workouts	
Workout	Description
Easy Endurance 1	6 miles or 10K at easy endurance pace
Easy Endurance 2	12 miles or 19K at easy endurance pace
Easy Endurance 3	8 miles or 13K at easy endurance pace
Tempo Run	Run 8 miles or 13K at tempo pace
Speed Run	After a warm up run 8 x 1 minute repeats at sprint pace. Recover between each 1 minute repeat with 2 minutes at an easy endurance pace
Hill Run	Run 6 miles or 10K up a steady moderate incline at what feels like 10K pace. Your actual pace will be slower due to the incline. Run back down the hill at an easy pace. You can also do this workout on a treadmill at 5% incline.
Long Run	Run 20 miles or 32K. Run the first 18 miles or 29K at endurance pace and the final 2 miles or 3K at goal 10K pace.
Strides	Run 12 x 100 meter strides

Strength Workouts	
Workout	Description
General Strength	None
Running Specific Strength	1 set of running strength
Plyometrics	1 set of plyometrics

Training Schedule - Week 9

Suggested Workout Sequence						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Easy Endurance 1 Running Strength	Lactate Turn Point Run Strides	Easy Endurance 2 Plyometrics	Goal Pace Run Strides	Easy Endurance 3 No Strength	Progressive Run Strides	Long Run

Running Workouts	
Workout	Description
Easy Endurance 1	6 miles or 10K at easy endurance pace
Easy Endurance 2	12 miles or 19K at easy endurance pace
Easy Endurance 3	8 miles or 13K at easy endurance pace
Lactate Turn Point Run	After a warm up, run 4 x 400/1600/500 meter compound sets. Run the 400 meters at speed pace, the 1600 meters at goal 10K pace and the 500 meters at sprint pace. Repeat 3 more times for a total of 4 sets with 1 minute of passive rest between each compound set
Goal Pace Run	After a warm up on a 400 meter track, run 2 x 5000 meter repeats at goal 10K pace. Recovery between the four sets with 3 minutes of passive rest
Progressive Run	Run a 10 mile or 16K progressive run
Long Run	Run 20 miles or 32K. Run the first 17 miles or 27K at endurance pace and the final 3 miles or 5K at goal 10K pace. Finish this workout with 400 meters at sprint pace
Strides	Run 12 x 100 meter strides

Strength Workouts	
Workout	Description
General Strength	None
Running Specific Strength	1 set of running strength
Plyometrics	1 set of plyometrics

Training Schedule - Week 10

Suggested Workout Sequence						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Rest No Strength	Tempo Run Strides	Easy Endurance 1 No Strength	Goal Pace Run Strides	Easy Endurance 2 No Strength	Rest	10K Race

Running Workouts	
Workout	Description
Easy Endurance 1	8 miles or 13K at easy endurance pace
Easy Endurance 2	6 miles or 10K at easy endurance pace
Tempo Run	Run 6 miles or 10K at tempo pace
Goal Pace Run	Run 5000 meters at goal 10K pace
Strides	Run 12 x 100 meter strides

Strength Workouts	
Workout	Description
General Strength	None
Running Specific Strength	None
Plyometrics	None

Strength Training

Strength training is essential in developing speed, power and muscle elasticity which is important for all runners but especially competitive athletes. Successful distance running depends running as efficiently as possible. If you are able to run faster at a lower fractional percentage of your VO_2 max your race pace will improve.

One of the best ways to improve your running efficiency is to improve your running economy. If you run easy, you will win easy. Strength training will improve your running economy, stride length and foot speed. It will also decrease your ground contact time, which will take minutes off your finishing time.

There are three types of strength training I believe you should be performing on a consistent basis - general strength training, running specific strength training and plyometrics. These types of strength training build upon each other. The general strength training improves your overall strength and provides a base to support the next phases of your strength training. Running specific strength will improve the strength of your running specific motions and muscles. Plyometrics are drills and exercises that increase your power and explosive strength.

General Strength Training

Below are the general strength training exercises the I feel are most appropriate for your training program. These exercises build a base of strength that will improve your impact resistance, help you avoid injuries and will build a base of strength for running specific strength exercises and plyometrics.

- Push Ups
- Biceps curl
- Bench Dips
- Supine Lat Pull Ups
- Squats
- Calf Raises
- Core Stabilization

Running Specific Muscle Emphasis (Running Strength)

These exercises strengthen your running specific motions and muscles.

- Bench Step Ups
- One Leg Squats
- Resisted Paw Backs
- Resisted Knee Drive
- Lunges

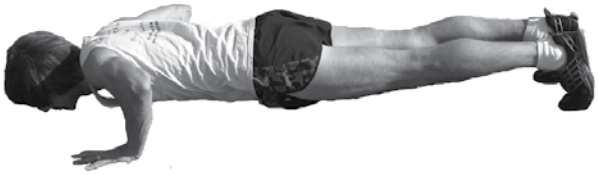
Running Specific Movements Emphasis (Plyometrics)

These high intensity exercises are very important for improving your running economy and power.

- Running Bound
- Single Leg Forward Hop
- Kangaroo Hops

General Strength Exercises

Push Ups



- Begin face down on the floor supporting yourself with your hands approximately shoulder width apart and your arms extended. Your feet can be together or up to 12 inches apart. Keep your body in a straight, neutral position. Do not arch your back. Contract your abdominal muscles to stabilize your trunk and spine.
- Slowly lower your body until your chest touches the floor. Push off the floor and return to the starting position. Repeat until you are fatigued.
- Breath throughout the exercise. Exhale on the upward portions and inhale on the downward portion.
- Do one set to fatigue.

Stability Ball Push Ups

- These are similar to standard push ups except you do them with your legs elevated on an exercise ball. Place your feet and lower legs on top of an exercise ball and support your upper body with your hands approximately shoulder width apart and your arms extended. Do not arch your back. Contract your abdominal muscles to stabilize your trunk and spine.
- Slowly lower your body until your chin and chest are near the floor. Concentrate on maintaining your stability on the ball. Push off the floor and return to the starting position. Repeat until you are fatigued.
- Breath throughout the exercise. Exhale on the upward portions and inhale on the downward portions.
- Do one set to fatigue.

Biceps Curl

- Standing upright, grasp the weight with your palms facing away from the front of your body. Contract your abdominal muscles to stabilize your trunk and spine. Keep your upper arms against your ribs and perpendicular to the floor.

- Slowly raise the weight by flexing your arms at your elbows. Keep your upper arms stationary. Raise the weight to the limit of your natural motion. Slowly return to the starting position.

- Breath throughout the exercise. Exhale on the upward portions and inhale on the downward portion. Do not arch your back. Keep your body still and straight. Control the weight throughout the exercise.

- Use a weight that takes you to exhaustion in about 15 to 20 repetitions. Do one set.

Bench Dips

- Sit on the bench or step with your palms down and gripping the edge of the bench. Slide your feet out in front of you so that you are supporting yourself on your heels and hands.

- Slowly lower yourself until your elbows are bent to approximately 90 degrees. Keeping your elbows pointing behind you push yourself back up by straightening your arms. Repeat this until you are fatigued. Breath throughout the exercise. Exhale on the upward portions and inhale on the downward portion.

Supine Lat Pull Ups

- A good place to do this exercise is on your treadmill. Lie face up on the deck of your treadmill. Reach up and grab the treadmill handles.
- Contract your core abdominal muscles to stabilize your hips and spine.
- Keeping your body firm and straight, slowly pull yourself up towards the handles of your treadmill.
- Slowly return to the starting position.
- Concentrate on pulling with the latissimus dorsi muscles of your upper back.
- Do one set until exhaustion.

Squats

- Stand in an upright position with your feet shoulder width apart. Hold your chest up and out. Pinch your shoulder blades together. Keep your head up. Contract your abdominal to stabilize your trunk.
- Slowly lower your body by allowing your knees and hips to flex. Maintain an erect body position. Lower your body until your thighs are nearly parallel to the floor. Do not allow your knees to move in front of your toes. As you lower your body raise your arms in front of you.
- Slowly raise your body back up to the starting position by extending your knees and hips. Breath throughout the exercise. Exhale on the upward portions and inhale on the downward portion. Do not arch your back.
- Perform one set of 20 to 30 repetitions.

Calf Raise

- Stand with one foot on a bench or step. Your toes and the ball of your foot should be on the step with your heel hanging off the edge. Hold your other foot up and behind you.

- Extend your foot so that your heel is raised up and your foot is on its toes. Slowly lower your heel until it is slightly below the step and you feel a slight stretch in your calf muscle. Repeat for your desired number of repetitions. Repeat this exercise with the other foot. Breath throughout the exercise. Exhale on the upward portions and inhale on the downward portion.

- Do one set of 20 to 30 repetitions.

Core Stabilization

- Lie face down on a mat or on a soft grassy area. Support your weight with your feet and forearms. Tuck your pelvis so that your hips are pressed forward and your body is straight. Hold this position for 20 to 30 seconds.

- Now lift your left arm and hold it straight out so that it is above your head. Hold for 20 to 30 seconds. Return the left arm to the support position and lift your right arm above your head and hold for 20 to 30 seconds. Return the right arm to the support position and lift your left foot off of the mat and hold for 20 to 30 seconds. Return the left foot to the mat and lift the right foot and hold for 20 to 30 seconds.

- Here comes the fun part. Lift your right arm and left foot at the same time. You should now be supporting your body with your left forearm and your right foot. Hold for 20 to 30 seconds. Now return the right arm and left foot to the mat and lift your left arm and right foot. Hold for 20 to 30 seconds.

Running Strength Exercises

Bench Step Ups

- Stand directly in front of a step bench that is 18 to 24 inches high. Place one foot (support foot) flat on the bench. With most of your weight on the heel of your support foot, forcefully push off with the support leg. A the same time drive your other knee up as in a running motion.

- Slowly lower your driving leg back to the ground in the original starting position. Repeat for the desired number of repetitions.

- Repeat this exercise using the other leg as the support leg. Breath throughout the exercise. Inhale on the downward portions and exhale on the upward portion. Keep your back in a vertical position. Do not allow the knee of the support leg to extend in front of the foot.

- Do one set of 20 to 30 repetitions.

One Leg Squats

- Contract your abdominal muscles to stabilize your trunk and spine. Place one foot (rear foot) behind you on a bench that is 12 to 18 inches high. Your other foot (forward foot) should be flat on the floor and directly under you.

- Bend your forward knee until it is at approximately a 90-degree angle. Do not let your knee extend in front of your foot. Slowly straighten your forward leg and return to the starting position. Repeat this exercise using the other leg as the lead leg.

- Breath throughout the exercise. Inhale on the downward portions and exhale on the upward portion. Keep your back in a vertical position. Do not allow the knee of the forward leg to extend in front of the foot.

- Do one set of 20 to 30 repetitions.

Resisted Paw Backs

- You can do this exercise using a low cable machine or with exercise tubing. Facing the resistance, support your weight on your left leg. Place your right foot through the low cable strap or tubing strap.
- Pull your right foot back against the resistance and bring your heel up and then drive your right knee back through to the starting position. Your foot and leg should follow a natural running motion.
- Do 20 repetitions with one leg, then repeat with the other leg.
- Use a resistance level that takes you to exhaustion in about 20 repetitions.
- Breath throughout the exercise
- Do not lock your knees at any time during this exercise.

Resisted Knee Drive

- You can do this exercise using a low cable machine or with exercise tubing.
- Facing away from the resistance, support your weight on your left leg. Place your right foot through the low cable strap or tubing strap.
- Drive your right knee forward against the resistance.
- Slowly return your leg to the starting position.
- Use a resistance level that takes you to exhaustion in about 20 repetitions.
- Breath throughout the exercise
- Do not lock your knees at any time during this exercise.

Lunges

- Stand in an upright position. Contract your abdominal muscles to stabilize your trunk and spine. Take a long step forward with one leg. Keep the knee and foot of the forward leg aligned.

- Slowly flex your forward knee until your thigh is parallel to the floor. At the same time lower the knee of your trailing leg toward the floor. Do not allow the knee of the forward leg to extend in front of the foot. The knee of the rear leg should stop approximately 2 inches above the floor. Keep your upper body in a vertical position.

- Forcefully push off with the forward leg and bring it back into position with the trailing leg. You should now be back in the starting position.

- Repeat this exercise using the other leg as the forward leg. Keep your back in a vertical position. Do not allow the knee of the forward leg to extend in front of the foot. Do not lock your knees at any time during this exercise.

- Do one set of 20 to 30 repetitions.

Plyometrics

Running Bound

- Begin by performing an easy run. Push off explosively with your left leg and drive your right knee up and out. Concentrate on driving the knee forward. Strive for maximum distance with each bound. Avoid vertical movement and stay low to the ground.

- Upon landing on the right foot, push off explosively with the right foot, driving the left knee up and out. Repeat this sequence throughout the drill. Remember to try to maximize distance and minimize time on the ground. Try to feel light on your feet. Continue for 50 meters.

Single Leg Forward Hop

- Stand on one foot with the other foot held free and behind your body.

- Quickly drop your body 10 to 12 inches by flexing your knee and rapidly explode upward and forward. Swing your arms forcefully upwards. Land on the same leg and immediately repeat the exercise. Continue for 25 meters.

- Repeat with the other leg.

Kangaroo Hops

- Stand in an upright position with your knees slightly bent.
- Quickly drop your body 10 to 12 inches by flexing your knees and rapidly explode upward and to the front.
- At the highest point of the jump, cycle your feet under your buttocks as in a cycling motion or running motion, but keep your feet together.
- Repeat upon landing and continue for 25 meters. Do 2 or 3 repetitions

Stretching, Warm Up and Cool Down

The most common warm up performed by most runners is a brief easy run to warm up the muscles followed by a series of static stretching. I think that a more efficient warm up for competitive runners is to follow a warm up run with dynamic drills rather than static stretching. There has been a lot of recent research that has suggested that extensive pre run static stretching does very little to prevent running injuries and may also decrease your ability to produce speed and power.

I would recommend first doing a easy warm up run and then do the following dynamic drills. The time to do static stretching is after your training run or race. At that point the static stretching will assist with your cool down and maintain flexibility without adversely affecting your training run or race.

Dynamic Warm Up Drills

Walking Lunge

- Take a long, exaggerated step forward with one leg. Drive your knee high and reach out as far as possible. Slowly flex your forward knee until your thigh is parallel to the ground. At the same time lower the knee of your trailing leg toward the ground. Do not allow the knee of your forward leg to extend in front of your foot. The knee of your trailing leg should stop approximately 2 inches above the ground, not touch the ground. Your upper body should remain in a vertical position.

- Forcefully push off with our forward leg, keeping most of your weight over your forward heel. At the same time cycle your trailing leg through and perform the same motion as described above. Keep performing these cycling motions so that you are moving forward with a walking lunge. Keep going for about 20 meters.

High Knees Drill

- Using a short stride and bouncing on your toes, take a step with an exaggerated high stride. Drive your knee as high as possible on each stride. As you drive your knee high bounce up on the toes of your opposite foot.

- Keep cycling your legs through this motion so that you are moving slowly forward over the ground with the exaggerated high knee motion and bouncing on your opposite foot. Keep going for about 20 meters.

Heel Kick Drill

- Begin by performing a slow jog. Using a short stride and bouncing on your toes, raise your heels as high as possible behind your body. Attempt to bounce your heels off your buttocks.
- Most of the movement should be with your lower leg. Concentrate on raising your heels as high as possible and staying on the balls of your feet with a bouncing motion. Keep moving forward for about 20 meters.

Walking Side Lunge Drill

- This drill is similar to the walking lunge exercise except you will be moving to the side instead of forward. Take a long, exaggerated step sideways with one leg. Slowly flex your lunging knee until your thigh is parallel to the ground. At the same time your trailing leg should remain straight and close to the ground. Your upper body should remain in a vertical position.

- Forcefully push off with your lunging leg, keeping most of your weight over your forward heel. Stand upright and bring your feet back together. Keep performing these motions so that you are moving sideways. Keep going for about 20 meters, then repeat going the opposite direction.

Static Cool Down Stretches

Hamstring Stretch

- Lie on your back in a supine position. Keep your right foot on the ground with your knee bent at 90 degrees.
- Raise your left leg up, grab it below your ankle and pull it toward your shoulders.
- Pull your leg until your feel a slight pull. Hold that position for about 20 seconds. Switch your leg positions and repeat.

Hip Stretch

- This exercise will stretch the iliopsoas muscle on the front of your hip.
- Move your right leg forward until your knee is directly over your ankle. Your left leg should be stretched out behind you with your knee on the ground.
- Now lower and push your hips down and forward to create a gentle stretch.
- Hold this position for 20 to 30 seconds. Switch your leg positions and repeat.

Quadriceps Stretch

- While standing on your left foot, pull your right foot up toward your right hip.
- Keep your lower leg aligned with your thigh. Do not pull your lower leg to the right or left.
- Pull until you feel a gentle stretch.
- Hold this position for 20 to 30 seconds. Switch leg positions and repeat.

Butterfly Stretch

- This is an exercise that will stretch the adductor (groin) muscles of your inner thigh.
- Start in a sitting position with your knees out and the soles of your feet together.
- Grab your toes and pull them gently upward. At the same use your elbows to gently push outward on your knees. You should feel a slight stretch on your inner thigh.
- Hold this position for about 20 to 30 seconds.

Calf Stretch

- There are two muscles in your calf that you should stretch. The largest and most visible muscle is called the gastrocnemius muscle. This is the large one you can see on the back of your lower leg. Underneath your gastrocnemius muscle is your soleus muscle. Your gastrocnemius muscle does most of the work when your knee is straight. When your knee is bent your soleus muscle contributes more work.

- To stretch your gastrocnemius muscle lie face down with your arms supporting your upper body in a push up position. Place your left foot over the back of your right ankle. Keep your right leg straight. With your toes flat on the ground push back so that your right heel is forced towards the ground. Hold that position for 20 to 30 seconds.

- Reverse leg positions and repeat.

- To stretch your soleus muscle perform the same exercise except bend your leg at the knee. This will bring your soleus muscle more into the stretch.

Race Strategy

Proper pacing and race strategy are critical to the success of your race. If you run the first part of the race too fast you will have trouble maintaining a strong pace in the last miles. Your conditioning, course terrain & weather will dictate correct strategy.

Lining Up

The proper etiquette to follow in lining up for road racing is to place yourself in a position in the starting pack that surrounds you with runners of equal ability. That means that if everyone lines up correctly, faster runners should be at or near the front of the pack. In a perfect world races would work that way. However, many runners do not follow this rule of etiquette. Nearly every race will have slow runners that decide to line up with their toes on the starting line. This results in the faster runners behind them having to weave around the slower runners. If a faster runners were to get caught behind these slower runners it could cost precious seconds at the start of the race. In the same way, a slower runner in the front could get caught up in the excitement of the start and run faster than they should. Starting too fast can be disastrous later in the race.

At your level it is important to establish your starting position at the front of the pack and hold your position. Being blocked in the first few meters of the race can cost you several important seconds at the finish.

The Start

- At the start of the race, be alert and get a good surge off the starting gun. You want to establish your position in the initial pack. Run hard for the first 50 to 200 meters so that you get some separation between you and the main pack. Some of the slower, less experienced runners tend to sprint at the beginning of the races due to excitement and the mistaken belief that they can maintain a fast pace. They will quickly fatigue and drop back. Avoid the temptation to try to follow an inexperienced runner that is sprinting too fast at the start. Let them go and run your race. Any runner that goes out way too fast will crash and burn spectacularly later in the race.

After you gain separation from the main pack, slow down to your planned pace. You will feel strong at the start of the race, but ignore that temptation to try to maintain your hard starting pace. Do not try to keep up with any faster runners in front of you. If you try to maintain that fast pace at the beginning of the race you will not be able to maintain your planned race pace in the all important middle and end of the race.

Race Pacing

There are a number of possible pacing strategies. Each of these have their advantages and disadvantages. The proper strategy will depend upon your strengths and weaknesses; and the race and course conditions.

- Even Pacing - Maintaining the same pace per mile throughout the race. This strategy is favored by many athletes and results in very good performances. Many studies have shown that the top runners in most races tend to run both the first half and the second half of the race in nearly equal times.

- Even Effort - Maintaining the same perceived effort level throughout the race. This type of pacing is more appropriate for beginning runners. Even effort pacing will result in slowing throughout the race due to the perceived effort level rising as you fatigue. This type of pacing will allow you to finish comfortably, but will not result in optimal performance.

- Negative Splits - Running the second half of the race faster than the first. Many coaches favor negative splits, because the easier start will reserve strength and energy for a fast finish. This type of pacing can be very enjoyable because you will pass a lot of runners in the last half of the race. If the course is flat and conditions are good, it can also give very good results. This is not always the best strategy if the second half of the course is harder than the first. It can also become difficult to catch competitors that run stronger in the first half and open up a large lead.

- Surging - Changing your pace throughout the race, depending upon race and course conditions. Surging is a very useful strategy and if used properly can give excellent results in any race.

- Front Running - Starting strong and trying to hang on throughout the race. This is not recommended for most runners. The idea of this type of pacing is to open a large lead and then try to hang on for the remainder of the race. This will always lead to a lot of pain in the last half of the race and very seldom results in top performances. There are some runners that have a very efficient stride that can maintain a quality pace when very fatigued. This type of runner may have success with this type of pacing, but for most runners, this is a bad pacing strategy.

- Strong Start/Middle Float - Starting strong, then running at a quality, but relaxed pace in the middle and finishing strong. This is a modified type of front running. Using this strategy, a runner will start strong and create some separation from the other runners. This runners will then slow to a strong but relaxed pace and try to recover while maintaining a lead. Then when partially recovered will finish strong. As with front running, only a runner that is able to handle a lot of pain and has a very efficient stride will have success with this strategy.

- Middle Push/Strong Finish - Starting at a relaxed pace, pushing hard in the middle miles and try to hang on for a strong finish. This is a very popular strategy that consistently results in top performances. Using this method, the runner will start with a relaxed pace in the early miles. In the middle of the race, the runner will pick up the pace to just over race pace and try to maintain this pace through to the finish. If you have the mental and physical strength to maintain that quality pace through to the finish, you will get very good results with this strategy.

Pacing Suggestions

I would suggest using a combination of negative splits and surging. You should start strong - slightly faster than planned race pace - for the first 50 to 200 meters, so that you gain separation from the main pack and establish your position in the race. Then slow down to your planned race pace for the first two miles.

When you come up on a slower runner accelerate smoothly and surge past them strongly. Surge at least 10 meters past them before slowing back to your planned goal pace. It is important to let the runner you passed know that they are defeated. A strong move will do that. If you pass more gradually and let them stay close to you they will feel that they can still beat you.

After you reach the 4 mile point increase your pace slightly but stay within a pace you can maintain for the final 2 miles. With around 800 meters till the finish line begin to pick up your pace but don't begin your finishing kick yet. Try to smoothly accelerate during the final half mile but stay loose and relaxed. With about 300 meters until the finish line start your finishing kick and cross the finish line strongly.

If your course has hills, use them to your advantage. On the uphills run strongly, but stay relaxed. Your pace will drop slightly on the uphills, but stay strong on the uphills. Do not allow your pace to drop dramatically. Take advantage of the downhill sections to recover. You can maintain race pace or even a faster pace on the down hills and still get in some recovery time. Do not lean back and fight the hill. Maintain a forward lean and use the hill to maintain your speed while decreasing you effort level.

Weather will play a major role in proper pacing. For most runners, high temperature means slower pacing. If you expect hot weather during your race, try to do a considerable amount of your training in similar temperatures. Extremely cold or wet weather can also cause your pace to be slower. If the race day temperatures are mild, you should be able to maintain a slightly faster pace.