Chico Tri Club Track Program Overview

By Sean Molina, USA Track & Field Level 1 Coach

When: **5:45 Thursdays** (except 1st Thursday of each month to allow for Rodney TT)
Where: **Pleasant Valley H.S. Track**

I. Introduction

Welcome to the CTC Track Program! If you're reading this you have at your fingertips a huge improvement in your running performance. And yes, I understand if you think of the track as a kind of "House of Pain." There have been plenty of instances over the years that I would not have made the move to track sessions and instead settled for my "same ol, same ol" run in the park. Perhaps I'd lost sight of how much more interesting training became and the sense of accomplishment I'd felt after completing sessions on the big oval.

But then again I didn't have a support system or organized program to pull me along.

So here it is…the smell of a big sunny grass field with warm gentle breezes, the energized voices of happy/healthy people in kid-like movement, and really incredible people moving closer to their athletic goals. And remember, you don't have to kill yourself to benefit from the track. Even if you just did the Warm-Up/Stretch/Drill portions and then brought out your perfect "running self" for a couple of laps around the track, you'd benefit greatly…guaranteed! You get in, get out, and you get better…a very high value 60 minutes or less indeed!

II. Purpose

The purpose is to attain a higher fitness level through increased speed and cardiovascular strength. This happens due to three major adaptations: increasing lactate tolerance, developing skill and technique for more efficient running economy, and lowering body fat %. Here's a partial explanation of these three critical adaptations:

   A. **Lactate Tolerance:** Running at an intensity of 88% (give or take) of your maximum heart rate not only develops slow twitch motor units but increases the activity and development of fast twitch motor units in the muscles that are producing work. As a result, the recruiting of these fast twitch motor units increases the glycolytic enzymes, carbohydrate oxidative capacity, blood buffering, and ultimately lactate tolerance you'll need to run faster for longer. If you've ever felt like your running is at an undesirable plateau, this factor could be the reason for your lack of improvement as lactate accumulation in your muscles is ultimately what slows you down.
   B. **Running Economy:** Can you typically get better at something without practicing? It is very beneficial to practice running at

faster speeds and doing movements that require greater ranges of motion, so that you learn to eliminate unnecessary body motions, increase stride length, recruit desirable muscle fibers, and use less energy while running. In addition to running at or near race-pace on the track for short segments, the drills, mobility exercises, and stretches are critical to improving running economy and mechanics.

C. Body Composition
Research indicates that not only does high-intensity training burn fat more effectively than low-intensity exercise (up to 50% more efficiently) it also speeds up your metabolism and keeps it raised for quite a while after your workout. Additionally, it also stimulates your endocrine system, or hormones, which helps to increase the muscle mass needed maintain a high metabolism and improve athleticism. Remember, you can run set distances and set paces for months on end, and the results will come, and then plateau, because your body gets used to the same old stuff. Time to inject some life into your metabolism!

Additionally, a track session can have major ramifications in your training week and consequently your program for two major reasons. First, knowing that you have a run workout that will require you to run at race-like paces means you'll be more inclined to be attentive to your general physical preparedness by doing such things as stretching more consistently and keeping your nutrition right. Secondly, you'll probably find that the run workouts done during the days following a track workout will feel more powerful and efficient. The end result is that you gain momentum in an otherwise stale running pattern.

The foremost running expert, Jack Daniels, gives his take on the the question of purpose…this is very, very good!:
http://www.cttrackandfield.com/video/main/show/id/331878-2.-Purpose-of-the-Workout-Thirsty-Thursdays

III. Program Elements
Here are short explanations of the four program elements:
A. Warm-UP
Warming-up accomplishes the following:
1) Enhances oxygen's delivery to muscles.
2) Increases body temperature. Warming up reduces the potential for muscle and connective injuries.
3) Increases blood flow to exercising muscles. The more blood that reaches the muscles, the easier the delivery of nutrients required for energy production.
4) Decreases muscle viscosity. Warming up enhances the suppleness of the working muscles.
5) Enhances the speed of transmission of nerve impulses. Motor faculties improve greatly when you're warmed up. Need proof? Get out of bed and run down the street. Not pretty!

6) Increases the blood saturation of muscles and connective tissue. The more blood reaching the muscles, tendons and ligaments, the better the elasticity of these tissues. This means better performance and reduced chance of injuries.
7) Prepares the cardiovascular system for impending workload. Helps the heart and blood vessels adjust to the body's increased demands for blood and oxygen.
8) Warming up may reduce the likelihood of excessive muscle soreness following the workout.

B. Stretching
Here are the major reasons for stretching before track sessions:
1) Stretching helps improve your range of motion which may also slow the degeneration of the joints.
2) May reduce your risk of injury. A flexible muscle is less likely to become injured.
3) Helps relieve post-exercise aches and pains.
4) Improves posture. Stretching the muscles of the lower back, shoulders and chest will help keep your back in better alignment and improve your posture.
5) Helps reduce or manage stress. Well stretched muscles hold less tension.
6) Improves mechanical efficiency. Since a flexible joint requires less energy to move through a wider range of motion, a flexible body improves overall performance by creating more energy-efficient movements.
7) Promotes circulation. Stretching increases blood supply to the muscles and joints which allow for greater nutrient transportation.
8) Decreases the risk of low-back pain. Flexibility in the hamstrings, hip flexors and muscles attached to the pelvis relieves stress on the lumbar spine.

C. Drills
Specifically, drills serve very important functions, such as the following:
1) "Priming" the nervous system for the bigger work that follows.
2) Trains your neuromuscular system to produce efficient, powerful movement.
3) Strengthen the muscles & increase ranges of motion that will be emphasized during high intensity running bouts.
4) Increase core body temperature.
5) Teach postural alignment.

D. Track Running
The benefits of structured track running include:
1) Learning pace. Timing your intervals help you get a feel for your speed. Your body gets to know different paces and how to maintain a rhythm.
2) Increase in your speed. You'll get faster by running faster.
3) Raising of your Anaerobic Threshold. This is the heart rate where your muscles start accumulating lactate acid. Increase the heart rate at which this happens and you'll run faster for longer.
4) Improvement of your mechanics (form). Your body learns to run more efficiently and relaxed while running faster.
5) Improves your endurance. Both the aerobic & anaerobic engines grow.
6) Adds variety. Mixing some speed with easy runs, long runs and hills rounds out your training.

7) Monitoring of progress. Record your number of intervals, times and recovery in your running log. Over time you'll see improvements in your numbers.
8) Boosts in confidence. Track sessions can hurt. Feel good that you're seeing it through.
9) Race preparation. Learning pace and completing an intense workout helps you mentally and physically for racing.
10) Sharpens your competitive skills.

NOTE: Collectively, the warm-up, dynamic stretching, and drill pieces constitute a legit training session in itself. This is even more so for those who are in the early stages of running fitness and development, as well as those who are in a recovery or peak training micro-cycle. In these cases, the value lies in the fact that you can improve your biomotor abilities with a very low stress element.

IV. Types of Training on the Track

This section is very, very important in terms of understanding the type of training that is appropriate for you at your given skill and fitness level as well as where you are within your current training cycle. In other words, for what purpose are you doing a particular training session and how does it fit within the training performed in the prior weeks and days and what's planned in the near future, i.e. other intense workouts or looming races?

There are many factors to consider when choosing a training type on the track. Have you logged a fair amount of base miles performed at a low level of intensity? If not, your muscles may not have an adequate capacity for receiving and processing oxygen to take on the greater oxygen demands of a Lactate Threshold (LT) or VO2max training. On the other hand, you could still get great benefits by jump-starting your running working on mechanics and your neuromuscular system doing drills and repetitions which have a low cardiovascular demand.

For those who are further along in there training, you might ask yourself if your body is ready the for maximal type efforts of a VO2max session that can so easily happen if your not careful with your pace and recovery interval. Is it the right time of year to work at your peak level...to "put all your chips down?" If not, you could end up arriving at race day feeling "flat."

Another scenario involves the athlete who has a nice fitness level, endurance is excellent or even just adequate, and who wants to get to the next level of fitness in the most expedient way possible so they can start having some good race performances. In this case, you should consider, after a couple of weeks of emphasis on mechanics and mobility, some Lactate Threshold (LT) training.

(Please see attached Track Workout Menu for specific workouts).

Here's a look in a nutshell, how you might choose a particular type of training session on the track.

A. Repetitions

You would choose to run repetitions for the purpose of improving mechanics, economy, anaerobic metabolism, and familiarizing with race speeds. These sessions are run at your current race pace for one mile and are usually done in running bouts of 200 to 600 meters. There is full recovery, usually between 3 and 5 minutes, between runs.

In terms of when to perform this type of track training in the context of your current fitness level and training cycle, repetitions are appropriate at almost any time of the year and irrespective of cardiovascular fitness level. Situational examples include the following:

1) Periodic year-round sessions to continue recruiting fast-twitch muscle-fibers and to maintain economical running mechanics during the "offseason" and base-building training phase.
2) To prepare you musculature and connective tissue for the transition from low-intensity base-building miles to the increased demands of the more stressful, high-intensity sessions to come, i.e. lactate threshold or VO2max training. The idea here is to introduce only one new stress for a given period of adaption.
3) There will be times during the year in which your workload will be at its highest (high volume + high intensity) and you are starting to race (or not). There's going to be times where you'll feel more broken down than you'd like…this is a good time to opt out of your planned LT session and do repetitions. You'll receive some very beneficial biomotor adaptations without the cardio stress.

The following short video clip with Jack Daniels will be extremely effective in helping you better understand how you can utilize and benefit from repetitions:
http://www.cttrackandfield.com/speaker/main/video/id/38-Jack-Daniels/vid/333580-3.-Leg-Speed-Thirsty-Thursday

B. Lactate Threshold

Many scientists consider LT to be a primary indicator of endurance performance. It is the highest intensity right under which an athlete recycles lactate as quickly as it is produced, so that lactate does not accumulate and interfere with muscle contraction. Above this point is when the intense burn and heaviness in your muscles occur, ultimately forcing you to slow down or even come to a stop. The purpose of performing LT workouts is to recycle or remove produced lactate at higher and higher heart rates and for longer without its accumulation in your muscles. Quite simply, training at an intensity of roughly 88% to 92% of your maximum heart rate teaches your working muscles to work at higher intensities with a longer time to onset of the "lactate burn."

These sessions are run at your current race pace for 10k less one minute (give or take) and are usually done in running bouts of 800 to

1600 (or mile) meters. There is usually between 1 and 3 minutes of recovery between runs. You should perceive them to feel comfortably hard.

LT training is ideally done after an aerobic foundation has been built, which for most people means late winter to late spring.

C. VO2max

The main goal of this type of workout is to improve your body's ability to work at aerobic capacity (VO2max) for race preparation. VO2 Max is the maximum amount of oxygen that our bodies can uptake and is measured as the quantity of oxygen per body weight over a set period of time. VO2 Max is mainly affected by our heart's volume per stroke, the total volume of blood in our system, and the hemoglobin's ability to carry the oxygen.

When conducting workouts to improve VO2max, run at your 5k race pace or a bit faster and try to sustain that pace for approximately 3-6 minutes, usually meaning intervals of 800 to 1500 meters (roughly a mile). To start with this intensity level, try running 3-4 intervals that are 800-1000 meters long at your VO2max pace. As you progress, work up to 5-8 intervals. Take a 1-4 minute recovery walk/jog between intervals.

You should perceive these sessions to feel hard, and should be performed at the height of your fitness when you are ready to "lay it all on the line", that is, when you are peaking.

A couple of important notes: If you are just starting out in a running program, improving VO2max should take a back-seat to just building up of weekly mileage. In other words, focus your efforts on running comfortably for 30-45 minutes 3-4 times per week for two to three months before you start at this very high intensity level. Also, because VO2max is measured as the actual maximum oxygen uptake per unit of body weight, we could also significantly improve VO2max by decreasing our body fat percentage.

V. Schedule

   A. Warm-Up- <u>10min</u> light running (start 5:45).
   1) *Light Running*: To prepare our bodies for the upcoming activity we'll need warm up our muscles, make them more elastic, get the blood flowing, and raise our body's core temperature by running 5 to 10min.
   B. Dynamic/Static Stretching - <u>15min</u> (start 5:55)
   1) *Hurdle Drills*: I'll have several bamboo/sticks to facilitate this drill. Please watch the following video clips, "Forward-Backward Hip Mobility", and "Lateral Hip Mobility," to get a feel for these critical mobility exercises:
   http://www.youtube.com/watch?v=jRtLhJW6HdQ&NR=1

2) *Leg Swings, Reverse Warrior Lunge, & Toy Soldier*: We will certainly demonstrate these stretches…use those or any others with which you're comfortable. They are demonstrated here:
http://www.youtube.com/watch?v=OK6kghPlyTI

3) *Static Stretches*: Please incorporate any stretches from your regular routine. Warmed-up muscles are a must for this kind of stretching. Some of the more pertinent and most commonly performed stretches include the following:
http://www.youtube.com/watch?v=apELAM4g5Hg&feature=related

C. **Drills- 10min (start 5:10).**

When doing drills, the ideal body position needs to be maintained as much as possible while different running movements are isolated and exaggerated. Like any workout, running drills can be done easy (walking), steady (controlled) and hard (vigorous). Until you feel comfortable with the specific drills, they should always be done easy and steady. Doing the drills in a vigorous manner requires a solid background and good feel for what is required. When doing these drills, put the emphasis on mid foot/forefoot landing, vigorous toe-off upwards (dorsal flexion), and knee lift. Arm action is also exaggerated following the normal pattern.

1) *Marching High Knees*:
http://www.youtube.com/watch?v=8opcQdC-V-U&feature=related

2) *High Knees w/ Skip*:
http://www.youtube.com/watch?v=Fc-lQq6y_2I&feature=related
also, below demonstrates High Knees & Butt Kicks
http://www.youtube.com/watch?v=Xlta0KY6DyQ

3) *Butt Kicks:*
http://www.youtube.com/watch?v=UfCH8LMmLH8&feature=related

4) *Strides:*
http://www.youtube.com/watch?v=qS9rFdeCjuk&feature=channel

D. **Track Running:** 15 to 40min (start 5:20)

Please see attached Track Workout Menu for detailed information and workouts. Also, please read the attached article by Jack Daniels explaining how to establish proper pacing for a given workout type. Don't be daunted by the chart…it's actually quite easy to use and is extremely important to your program. The ideal scenario would be for you to come to the track workout with a good sense of your ideal pace, particularly your per lap pace for a given workout type. I could certainly consult with you on the nuisances of your fitness and goals and work from there to find the optimum pace.

VI. Key Areas of Emphasis

The following are areas that I believe can have very positive impacts on your running performance and will be encouraged and imbedded in our activities.

A. Dorsi Flexion

Dorsi Flexion of your feet will be encouraged throughout the track session, particularly during drills and mobility exercises, as I believe it to be the foundation of developing good running mechanics/technique. Please read the following article to fully appreciate the importance of this concept.
http://www.runningplanet.com/training/dorsi-flex-for-running-economy.html
Key Focus Points of Article:

- Your running form all starts with your toes! When you raise your toes you are dorsi-flexing your ankle. You are pulling your toes and the front of you foot up towards your lower leg.
- You need to increase your running power or your ability to produce force quickly.
- "Stretch-Reflex" principle- Your muscles are a lot like springs or rubber bands. When you stretch your muscles they store a lot of energy, just like when you stretch a rubber band.
- Raising the front of your foot encourages a triple response in which your knee and hip also flex slightly bringing them into ideal position for a proper running stride. In addition a dorsi-flexed foot helps encourage a proper foot strike with your lead foot landing directly under your center of gravity.

B. Hip Mobility

Hip mobility is a key aspect of improving stride length and efficient mechanics. This is best achieved through dynamic activities like aforementioned hurdle drill. Not just at track workouts, but at home 3 to 5 times per week. It'll be the most valuable 5 to 10 minutes you'll spend. Here's an excellent overall informative video on this area:
http://www.youtube.com/watch?v=y07WC7iZTW8&feature=related

C. Core Strength

In order to reach your full potential as a runner and to make you much less prone to injury, it makes sense address your core and postural needs first and foremost. Strength work to stabilize the trunk is essential. It provides a strong pillar through which the limbs may transfer forces essential to improving mechanics. I highly recommend doing a minimum of 15 minutes twice per week of core strength work. Here's a very nice video on this area:
http://www.youtube.com/watch?v=lbjnhxZq_fY&NR=1

VII. Running Tips (from The Complete Running Blog Network)

A. Motivation Tips

1. Sign up for a race as soon as you feel up to it.
2. Find a committed running partner. It is much harder to skip a run when you have someone else depending on you.
3. Remember that you will have plateaus in your progress and tough days along the way.
4. It gets easier.
5. Accept and appreciate the fact that not every single run can be a good one.
6. Be prepared to remove the words "can't" and "never" from your vocabulary.
7. "Do not compare yourself to others. Run within yourself and for yourself first.
8. Don't expect every run to be better than the last one; some of them will hurt.
9. Don't think too much about it or you won't do it.
10. Even a bad run is better then no run at all.
11. Don't be discouraged if you don't experience weight loss immediately.

B. Prevention Tips

1. Do not increase your mileage more than 10 percent per week.
2. Do not run two hard days back-to-back.
3. Ice aches and pains immediately.
4. Pay attention to your form. Try to run lightly to minimize impact that could lead to injury.
5. Cut your Training by at least 30 percent to 50 percent every 4th or 5th week for recovery.
6. Be careful about running on paths that force you to run consistently on a slant. It's hard on the hips knees and IT bands.
7. Don't stretch before a run. Warm up by walking briskly or jogging slowly for several minutes.
8. Do not ice for more than 20 minutes at a time.
9. Do not use the hot tub after a race. It will increase inflammation and hinder healing.
10. Frozen peas make a great ice pack for aches and pains. A thin t-towel wrapped around them makes the cold more comfortable.

C. Training Tips

1. If you are breathing too hard slow down or walk a bit until you feel comfortable again.
2. Set realistic short term and long term goals.
3. Keep a training diary.
4. There's no shame in walking.
5. Lift weights.
6. It's okay to take walk breaks (run 1 minute walk 1 minute then progress to run 10 minutes walk 1 minute etc.).
7. Vary your training routes. This will prevent boredom and prevent your body from getting acclimated.
8. Speed work doesn't have to be scientific. Try racing to one light post and then jogging to the next.
9. Do abdominal breathing to get rid of side cramps or "stitches."
10. If you can't find the time to run, take your running gear to work.
11. Run on trails if at all possible. It will be easier on your body and you'll love it.

12. Build rest into your schedule. Rest is just as important of an element as exercise in your fitness plan.
13. Forgive yourself. Over-ambitious goals usually lead to frustration and giving up on your fitness plan. Mix-up your training plan. Make sure your training plan is not too heavily focused on one thing. No matter what level of runner you are your training plan should include four essential elements: endurance, speed, rest, & cross-training (not a problem for us triathletes!).

VIII. Workout Menu

Chico Tri Club Track Workout Menu

By **Sean Molina**

Repetition Training	LT Training (Lactate Threshold)	VO2max Training
PURPOSE: Improve mechanics, economy, & anaerobic metabolism; familiarizing w/ race speeds.	**PURPOSE:** Raise the pace at which you begin accumulating lactate acid, and increase the time at that pace.	**PURPOSE:** Improve your body's ability to work at aerobic capacity (VO2max) for race preparation.
RPE: N/A (full recovery btw. reps.)	**RPE:** Comfortably Hard	**RPE:** Hard
% MAX HR: N/A (mostly anaerobic)	**% MAX HR:** 88-92%	**% MAX HR:** >97%
PACE: Equivalent Mile Race Pace.	**PACE:** bit slower than 10k Race Pace.	**PACE:** 5k Race Pace or a bit faster.
DURATION of RUNS: 200m to 600m	**DURATION of RUNS:** 800m to 1 mile	**DURATION of RUNS:** 800m to 1mile
REST Btw. Efforts: 3-5mins	**REST Btw. Efforts:** 1-3mins	**REST Btw. Efforts:** 30-3mins
TRAINING PHASE: Base; Build; Peak	**TRAINING PHASE:** Build; Peak	**TRAINING PHASE:** Peak
200 Repeats 6 to 12 x 200m *Rest btw.efforts:* Full recovery (3 - 5min)	**Cream & Sugar** *4 sets of* 1000m (2min rest), then 200m hard *Rest between Sets:* 30sec	**Max Cream & Sugar** *4 sets of* 1000m (1min rest), then 200m hard *Rest between Sets:* 30sec
400 Repeats 4 to 12 x 400m *Rest btw.efforts:* Full recovery (3 - 5min)	**The Big Pyramid** 600-800-1000-1200-1000-800-600 *Rest btw. efforts:* 90sec to 3min	**House of Pain** 600-800-1000-1200-1000-800-600 *Rest btw. efforts:* 60sec to 2min
600 Repeats 4 to 12 x 400m *Rest btw.efforts:* Full recovery (3 - ? min)	**Cruise 800s** 4 to 8 x 800m *Rest btw. efforts:* 2 to 3min	**Fast 800s** 4 to 8 x 800m *Rest btw. efforts:* 1 to 2min
	1000s 5 to 8 x 1000m *Rest btw. efforts:* 2 to 3 min	**Max 1000s** 5 to 8 x 1000m *Rest btw. efforts:* 1 to 3min
	Cruise Miles 4 to 6 x 1 mile *Rest between efforts:* 2min	**Fast Miles** 3 x 1 mile at 3km pace *Rest between efforts:* 2min
	The Little Pyramid 800-1000-1200-1000-800 *Rest btw. efforts:* 90sec to 3min	**Beast From the East** 5 to 8 x 1000 at slower than 10k pace *No Rest.* Instead, 400 at 10sec slower pace.
	Ken's Killer Tempo Run 20 minutes continuous running holding a bit slower than 10k pace throughout.	**Fast-Faster-Fastest** 3 sets of 800m, 600m, 200m *Each set consists of:* 800m at 5km pace, 60sec rest 600m at 3km pace, 30sec rest 200m at 1 mile pace *Rest between sets:* 1min

IX. Attachments

The following article was found at

Running Training: Determining your current level of fitness.

Article By: Jack Daniels

Part 4: Determining your current level of fitness.

By using standard values for running economy and by having a timed Performance over at least one running distance, a fitness ("VDOT") value can be assigned to you for training and race-prediction purposes. **Table 1** provides this information. To use this VDOT Table, you merely look up a time associated with a distance you have recently run and read across to the column headed by "VDOT". VDOT is an adjusted V02max (which may or may not match a laboratory-generated V02max), which tells you how you might race for other distances (in the row, associated with the same VDOT), and also tells you how first to perform different types of training (Table 2 provides the training-intensity information).

When using a race performance to identify a VDOT, which will then be used to predict a performance for another, yet-to-be-run distance, make sure you use performances run under similar conditions (terrain, wind, temperature and altitude). Also, a longer race (15K to 25K, for example) will usually be a better marathon predictor than would be a 1-mile or 5K race.

When using a current VDOT to determine training intensities, you plug the identified VDOT into Table 2 and read across that row to identify paces for Easy / Long (E/L) runs, Marathon-pace (MP) training, Threshold (T) runs, Intervals (1) and Repetitions (R) training. Don't try to beat the assigned training intensities; to train faster, you first must justify a higher VDOT by performing better in a race situation.

Table 1

Table 1   VDOT values associated with times raced over some popular distances

VDOT	1500	Mile	3000	2-mile	5000	10,000	15,000	1/2 Mara	Marathon	VDOT
30	8:30	9:11	17:56	19:19	30:40	63:46	98:14	2:21:04	4:49:17	30
32	8:02	8:41	16:59	18:18	29:05	60:26	93:07	2:13:49	4:34:59	32
34	7:37	8:14	16:09	17:24	27:39	57:26	88:30	2:07:16	4:22:03	34
36	7:14	7:49	15:23	16:34	26:22	54:44	84:20	2:01:19	4:10:19	36
38	6:54	7:27	14:41	15:49	25:12	52:17	80:33	1:55:55	3:59:35	38
40	6:35	7:07	14:03	15:08	24:08	50:03	77:06	1:50:59	3:49:45	40
42	6:19	6:49	13:28	14:31	23:09	48:01	73:56	1:46:27	3:40:43	42
44	6:03	6:32	12:55	13:56	22:15	46:09	71:02	1:42:17	3:32:23	44
45	5:56	6:25	12:40	13:40	21:50	45:16	69:40	1:40:20	3:28:26	45
46	5:49	6:17	12:26	13:25	21:25	44:25	68:22	1:38:27	3:24:39	46
47	5:42	6:10	12:12	13:10	21:02	43:36	67:06	1:36:38	3:21:00	47
48	5:36	6:03	11:58	12:55	20:39	42:50	65:53	1:34:53	3:17:29	48
49	5:30	5:56	11:45	12:41	20:18	42:04	64:44	1:33:12	3:14:06	49
50	5:24	5:50	11:33	12:28	19:57	41:21	63:36	1:31:35	3:10:49	50
51	5:18	5:44	11:21	12:15	19:36	40:39	62:31	1:30:02	3:07:39	51
52	5:13	5:38	11:09	12:02	19:17	39:59	61:29	1:28:31	3:04:36	52
53	5:07	5:32	10:58	11:50	18:58	39:20	60:28	1:27:04	3:01:39	53
54	5:02	5:27	10:47	11:39	18:40	38:42	59:30	1:25:40	2:58:47	54
55	4:57	5:21	10:37	11:28	18:22	38:06	58:33	1:24:18	2:56:01	55
56	4:53	5:16	10:27	11:17	18:05	37:31	57:39	1:23:00	2:53:20	56
57	4:48	5:11	10:17	11:06	17:49	36:57	56:46	1:21:43	2:50:45	57
58	4:44	5:06	10:08	10:56	17:33	36:24	55:55	1:20:30	2:48:14	58
59	4:39	5:02	9:58	10:46	17:17	35:52	55:06	1:19:18	2:45:47	59
60	4:35	4:57	9:50	10:37	17:03	35:22	54:18	1:18:09	2:43:25	60

VDOT	1500	Mile	3000	2-mile	5000	10,000	15,000	1/2 Mara	Marathon	VDOT
61	4:31	4:53	9:41	10:27	16:48	34:52	53:32	1:17:02	2:41:08	61
62	4:27	4:49	9:33	10:18	16:34	34:23	52:47	1:15:57	2:38:54	62
63	4:24	4:45	9:25	10:10	16:20	33:55	52:03	1:14:54	2:36:44	63
64	4:20	4:41	9:17	10:01	16:07	33:28	51:21	1:13:53	2:34:38	64
65	4:16	4:37	9:09	9:53	15:54	33:01	50:40	1:12:53	2:32:35	65
66	4:13	4:33	9:02	9:45	15:42	32:35	50:00	1:11:56	2:30:36	66
67	4:10	4:30	8:55	9:37	15:29	32:11	49:22	1:11:00	2:28:40	67
68	4:06	4:26	8:48	9:30	15:18	31:46	38:44	1:10:05	2:26:47	68
69	4:03	4:23	8:41	9:23	15:06	31:23	48:08	1:09:12	2:24:57	69
70	4:00	4:19	8:34	9:16	14:55	31:00	47:32	1:08:21	2:23:10	70
71	3:57	4:16	8:28	9:09	14:44	30:38	46:58	1:07:31	2:21:26	71
72	3:54	4:13	8:22	9:02	14:33	30:16	46:24	1:06:42	2:19:44	72
73	3:52	4:10	8:16	8:55	14:23	29:55	45:51	1:05:54	2:18:05	73
74	3:49	4:07	8:10	8:49	14:13	29:34	45:19	1:05:08	2:16:29	74
75	3:46	4:04	8:04	8:43	14:03	29:14	44:48	1:04:23	2:14:55	75
76	3:44	4:02	7:58	8:37	13:54	28:55	44:18	1:03:39	2:13:23	76
77	3:41+	3:58+	7:53	8:31	13:44	28:36	43:49	1:02:56	2:11:54	77
78	3:38.8	3:56.2	7:48	8:25	13:35	28:17	43:20	1:02:15	2:10:27	78
79	3:36.5	3:53.7	7:43	8:20	13:26	27:59	42:52	1:01:34	2:09:02	79
80	3:34.2	3:51.2	7:37.5	8:14.2	13:17.8	27:41.2	42:25	1:00:54	2:07:38	80
81	3:31.9	3:48.7	7:32.5	8:08.9	13:09.3	27:24	41:58	1:00:15	2:06:17	81
82	3:29.7	3:46.4	7:27.8	8:03.7	13:01.1	27:07	41:32	59:38	2:04:57	82
83	3:27.6	3:44.1	7:23.1	7:58.7	12:53.0	26:51	41:06	59:01	2:03:40	83
84	3:25.5	3:41.8	7:18.5	7:53.7	12:45.2	26:34	40:42	58:25	2:02:24	84
85	3:23.5	3:39.6	7:14.1	7:48.9	12:37.4	26:19	40:17	57:50	2:01:10	85

Table 2

Table 2   Training intensities based on current VDOT

VDOT	E(Easy)/L(Long)		MP	T(Threshold Pace)			I (Interval Pace)				R (Rep Pace)		
	per Km	Per mile		400	1000	Mile	400	1000	1200	Mile	200	400	800
30	7:37	12:16	11:02	2:33	6:24	10:18	2:22				67	2:16	
32	7:16	11:41	10:29	2:26	6:05	9:47	2:14				63	2:08	
34	6:56	11:09	10:00	2:19	5:48	9:20	2:08				60	2:02	
36	6:38	10:40	9:33	2:13	5:33	8:55	2:02	5:07			57	1:55	
38	6:22	10:14	9:08	2:07	5:19	8:33	1:56	4:54			54	1:50	
40	6:07	9:50	8:46	2:02	5:06	8:12	1:52	4:42			52	1:46	
42	5:53	9:28	8:25	1:57	4:54	7:52	1:48	4:31			50	1:42	
44	5:40	9:07	8:06	1:53	4:43	7:33	1:44	4:21			48	98	
45	5:34	8:58	7:57	1:51	4:38	7:25	1:42	4:16			47	96	
46	5:28	8:48	7:48	1:49	4:33	7:17	1:40	4:12	5:00		46	94	
47	5:23	8:39	7:40	1:47	4:29	7:10	98	4:07	4:54		45	92	
48	5:17	8:31	7:32	1:45	4:24	7:02	96	4:03	4:49		44	90	
49	5:12	8:22	7:24	1:43	4:20	6:55	95	3:59	4:45		44	89	
50	5:07	8:14	7:17	1:42	4:15	6:51	93	3:55	4:41		43	87	
51	5:02	8:07	7:09	1:40	4:11	6:44	92	3:51	4:36		42	86	
52	4:58	7:59	7:02	98	4:07	6:38	91	3:48	4:33		42	85	
53	4:53	7:52	6:56	97	4:04	6:32	90	3:44	4:29		41	84	
54	4:49	7:45	6:49	95	4:00	6:26	88	3:41	4:25		40	82	
55	4:45	7:38	6:43	94	3:56	6:20	87	3:37	4:21		40	81	
56	4:40	7:31	6:37	93	3:53	6:15	86	3:34	4:18		39	80	
57	4:36	7:25	6:31	91	3:50	6:09	85	3:31	4:15		39	79	
58	4:33	7:19	6:25	90	3:45	6:04	83	3:28	4:10		38	77	
59	4:29	7:13	6:19	89	3:43	5:59	82	3:25	4:07		37	76	
60	4:25	7:07	6:14	88	3:40	5:54	81	3:23	4:03		37	75	2:30

61	4:22	7:01	6:09	86	3:37	5:50	80	3:20	4:00		36	74	2:28
62	4:18	6:56	6:04	85	3:34	5:45	79	3:17	3:57		36	73	2:26
63	4:15	6:50	5:59	84	3:32	5:41	78	3:15	3:54		35	72	2:24
64	4:12	6:45	5:54	83	3:29	5:36	77	3:12	3:51		35	71	2:22
65	4:09	6:40	5:49	82	3:26	5:32	76	3:10	3:48		34	70	2:20
66	4:05	6:53	5:45	81	3:24	5:28	75	3:08	3:45	5:00	34	69	2:18
67	4:02	6:30	5:40	80	3:21	5:24	74	3:05	3:42	4:57	33	68	2:16
68	4:00	6:26	5:36	79	3:19	5:20	73	3:03	3:39	4:53	33	67	2:14
69	3:57	6:21	5:32	78	3:16	5:16	72	3:01	3:36	4:50	32	62	2:12
70	3:54	6:17	5:28	77	3:14	5:13	71	2:59	3:34	4:46	32	65	2:10
71	3:51	6:12	5:24	76	3:12	5:09	70	2:57	3:31	4:43	31	64	2:08
72	3:49	6:08	5:20	76	3:10	5:05	69	2:55	3:29	4:40	31	63	2:06
73	3:46	6:04	5:16	75	3:08	5:02	69	2:53	3:27	4:37	31	62	2:05
74	3:44	6:00	5:12	74	3:06	4:59	68	2:51	3:25	4:34	30	62	2:04
75	3:41	5:56	5:09	74	3:04	4:56	67	2:49	3:22	4:31	30	61	2:03
76	3:39	5:52	5:05	73	3:02	4:52	66	2:48	3:20	4:28	29	60	2:02
77	3:36	5:48	5:01	72	3:00	4:49	65	2:46	3:18	4:25	29	59	2:00
78	3:34	5:45	4:58	71	2:58	4:46	65	2:44	3:16	4:23	29	59	1:59
79	3:32	5:41	4:55	70	2:56	4:43	64	2:42	3:14	4:20	28	58	1:58
80	3:30	5:38	4:52	70	2:54	4:41	64	2:41	3:12	4:17	28	58	1:56
81	3:28	5:34	4:49	69	2:53	4:38	63	2:39	3:10	4:15	28	57	1:55
82	3:26	5:31	4:46	68	2:51	4:35	62	2:38	3:08	4:12	27	56	1:54
83	3:24	5:28	4:43	68	2:49	4:32	62	2:36	3:07	4:10	27	56	1:53
84	3:22	5:25	4:40	67	2:48	4:30	61	2:35	3:05	4:08	27	55	1:52
85	3:20	5:21	4:37	66	2:46	4:27	61	2:33	3:03	4:05	27	55	1:51