<u>Safety</u>: Meet with your doctor routinely and discuss the nature and details of the physical training you are planning to do. There are a few underlying health conditions that can lead to serious injury, or even death, in rare cases.

# **Colorado Track Club**

# **Go Faster!**

# The CTC Training and Racing Strategy

# Version 2, October 2023

For use with the ColoradoTrackClub.com Video Series

Questions? Website: ColoradoTrackClub.com Email: <u>Rob@coloradotrackclub.com</u> Phone: (970) 509-0213

Respect and study the science, bleed competition. It takes both disciplines!

#### How to Use This Guide

- 1) **Purpose**: People from around the world visit our website and send many questions. This guide, accompanied with our webpages and videos, can help athletes and coaches of all abilities understand our approach and set up a solid training plan. This plan is used successfully for beginners, as well as at the professional level. Overall CTC approach:
  - a. Always work to build top-end speed (athletic coordination and sport-specific power). I don't care if the athlete claims to be a 5,000m specialist, what is your 300m time?
  - b. Always work to build unshakeable stamina (superb endurance and running strength to endure a fast-paced race). I don't care if the athlete claims to be an 800m specialist, what is your 3,000m time?
  - c. Spend most of your training year building to the extremes of your event specialty, then spend the final 4-6 weeks of the season dialing in your specific event requirements. Be purposeful with the process.
  - d. 10-15% of your training / coaching development should be spent studying the history of successful competitors. 85-90% of your time in the science. Once you have a decent grasp of training principles, spend more time in work that builds your competitive resilience, which leads to confidence on the starting line. We have a few key workouts designed for this purpose that we use throughout the year.
- 2) This training plan is decades in the making. We've experimented and learned how to make athletes faster more quickly. Every detail within our training plan has been tested and has a purpose, while making minor adjustments for different event specialties and skillsets.
- 3) This guide can be read in 45 minutes by many people. It's not terribly complex. Running fast is not terribly complex. The homepage of ColoradoTrackClub.com has video examples and page links to help the reader understand the concepts in this guide.
- 4) CTCs Success Measurements: Our Pro Team mission is to "help fast athletes get faster." Can we move the female 2:05 800m runner to 2:00.8. Can we move the male 3:43 1500m runner to 3:35.5? Can we move the male 1:48.5 800m runner to 1:45.2? Can we move the female 16:10 5K runner to 15:05? This privilege is why we exist as a team and as a business.
  - a. These principles have been applied successfully to younger athletes as well, from junior high to high school; from less competitive team members, to state Champions and record holders.

I wish you the best and Go Faster!

Robert Berry Head Coach, Colorado Track Club Prequel to Chapter 1 – October 2023

#### Does this Book Represent What our Top Pro Athletes Do?

Yes-No-Pretty Much. Please skip this chapter if you are newer to running – it is NOT important to you. Our top athlete is approaching the legit side of the professional level. She had a reasonable running foundation when she started at age 19 with us. At 22, she has amassed superb strength, speed, and stamina. She follows the templates and philosophy outlined in this book. However, she has mastered the basics of the CTC approach and is now experimenting with small additions to mileage and more challenging 12K pace work than I recommend for slower athletes.

**Note**: There is a lot of current discussion about the value of "Double Threshold" work due to the World Records of Jakob Ingebrigtsen, and his near World Record in the Mile in 2023. Every serious athlete and coach should ponder the **Norwegian Model** and whatever misconceptions or extenuating factors that come with trying to study and copy another's training philosophy.

Our small adjustments this season (50 weeks) includes:

- An increase in annual mileage. Fridah has gone above 80 miles per week several times and is above 90 miles as I write this. These are consistent weeks; not a 1-off bragging week. Previous seasons kept her consistently in the upper 60s – mid 70s. She has 2 extra afternoon 12K recovery runs per week that account for most of this work. Her long run (27-30K @ 5:45-5:55 pace at altitude) is consistently longer than past seasons.
- 2) An increase in weekly Threshold volume. Previously (as a 4:20 miler / 15:00 5K runner), her common off-season weekly workout was 5 x 2000 at 5:18 pace, with 50 seconds rest. She is now at 5 x 2000 at 5:12 pace... and followed up 24 hours later with an additional Progressive 10K with a middle 5K session run at 16:20. Therefore, we have added 3 more miles per week of Threshold work. Is 2 days back-to-back too much? Maybe. To make that opinion more compelling, she jumps in 14 hours later with 5 x 800 @ 2:18. Our Monday, Tuesday, and Wednesday sessions are a gauntlet.
- 3) She is still doing hill sprints and bounding every Friday. We have not experimented with this difficult workout.
- 4) We have lowered the 800m repeats she is only doing 5 reps at 2:18 per rep. 1:1 jogging rest. By December, we will scale back on the mileage and increase her 800m repeat work / difficulty.

That is it. Very small adjustments. Evaluate closely. As discussed in this book, our seasons and approach are predictable – from children to pros - which helps us to critique the CTC approach.

#### **Preparation & Timelines**

We develop 6-12 month training cycles our Pro athletes, and have a *Strategy* that extends to several years. That means you have 6-12 months (26-52 weeks) until your peak race for your next competitive season. I cannot emphasize too much that you identify your key meets and build your seasons for that event. Do <u>NOT</u> let unimportant races or "seasons" hijack your training and improvement.

If you are trying to build a "season" that contains less than 26 weeks, good luck - we may not be your best resource! You've likely left out an important part of your development and the chance of injury rises with difficult workouts.

Example of how to build your annual training schedule:

My peak race is the NY State Championships, USATFs, or the Kenyan National Championships, or whatever – on June 1<sup>st</sup>.

- June 1<sup>st</sup> is Week "0" Championship Day. Now, work backwards with your calendar.
- May 25<sup>th</sup> is Week "01"
- May 4<sup>th</sup> is Week "04" Time to dial in on the peak performance. Hard races. Great recovery. Hi-speed practices.
- April 13<sup>th</sup> is Week "07" Switch to the Fast Phase of the Speed Season. Endurance work is fading away weekly, but is still challenging in shorter volumes with faster speeds. Speed workouts are painful!
- February 9<sup>th</sup> is Week "16" Switch to Early Phase of the Speed Season "Speed Transition." We still have a solid blend of endurance work mixed in. Max Velocity is fading away weekly. The speed workouts are very tough, and get tougher each week as you move toward April 13<sup>th</sup>. Speed workouts are getting painful!
- January 5<sup>th</sup> is Week "21" Advanced Hill Work, Endurance Work, and Max Velocity Work. Hill sprints are nasty at this point in your season.
- December 1<sup>st</sup> is Week "26" Endurance Work, Max Velocity Work, and Moderate Hill Work. Lots of work... nothing is devastating, but you are tired a lot.
- We prefer to add on another 10-14 weeks of early season work. The focus is on fundamentals, Endurance Work, Max Velocity Work, and Short Hill Work.

#### Set Ambitious Goals and Pursue Many Layers of Improvement

Folks – I can't make it any simpler than this free, very short, and concise "book." I get calls, texts, and emails just about weekly: People "say" they want to be great. They will even buy a book or sign up for a class. The best folks are doing some amazing work on the track, on the roads, and in the weight room (the needed work is rarely in the library). There are also legions of dudes that have "an appointment" to go to on the days of difficult workouts, or many other "unplanned distractions" throughout the work week. Couple those reasons with normal illnesses, injuries, bright training ideas, and the athlete runs out of actual time needed to train.

The missing ingredient for several people is the ability to stack one workout on top of the other – make small improvements every month and every year. You are applying thousands of tiny layers of experience and challenging workouts over time. <u>*Patiently*</u> work hard toward your goals.

#### How to Get Started Toward a Running Goal:

- Step 1: Start with a quick <u>analysis</u> (30 minutes max): Review the TFFRS, MileSplit, or World Athletics website and see what type of times people are running in an event that you want to compete in. Use a conversion app, like McRun, and see what type of times that athlete may be able to run from 400m – 10000m. Divide the differences between you and them into 10 even segments. Your 1<sup>st</sup> goal is to reach the 1<sup>st</sup> segment.
- Step 2: Start doing the work needed to help you meet each of those race times, not just the ones you "feel" you can work toward. A topflight male 10K runner can also run close to 3:52 in the mile. That also means about 1:46 in the 800. That also means sub 49 in the 400, for some of them.
  - Don't ignore any of the requirements: from the athleticism needed to run a 49 in the 400, to the endurance needed to run a 27:00 in the 10K. How can you possibly begin to approach any of these abilities? Hint: the athletes are not getting to 48.8 in the 400 by simply running 100 miles per week with the crowd. It takes specific work throughout the training year to work all the areas needed.
- There are several winning strategies. Do the academic and journalistic investigation to make sure you are following the strategy of your choice correctly. Then, work to build and build and build. You should be making measurable improvements almost monthly. Measurements can be identified in your 300m time, your 3,000m time, your sit-up test, your 3-rep deadlift, your sprint drill technique, your time spent rolling and stretching, your weekly mileage, your long run distance or pace, your annual mileage, etc.. Keep improving in a wholistic manner.

#### **Pre-Race Warm-up**

The Pre-Race Warm-up is completed at some point during EVERY WEEK of our training year, often twice per week! Consider it a mobility workout or whatever you want to call it. Practice and improve the routine and make it synonymous with "getting ready for serious business."

**Think**: If you had designed the world's best 90-minute routine that you would employ before an Olympic qualifying race or National Championship, what would the plan contain? What order of activities, events, bathroom breaks, foam rolling, drills, stretches, reflection, hydration, snacking, and prep runs would you complete? What would your meal plan be up to four hours before this perfect race? What is your sleep plan the night before? This is important – figure it out! Implement this 1-2 times per week, all year long, every year.

In practice, this warm-up is also used to help us identify potential or lingering injuries before violent, high-speed workouts occur. We layer / spiral the warm-up and get faster and faster as race / go time approaches. Example: Maybe you have a tender hamstring that is being aggravated during your pre-race warm-up. You may wisely decide to postpone the max velocity workout planned in Week 22 of your training schedule. Spend that time on needed therapy instead. A distance or mid-distance runner losing three weeks of training due to a preventable sprinting injury is no bueno.

The ColoradoTrackClub.com website's Pro Training Page has a video link of an excellent example of a Pre-Rece Warm-up for a high-level athlete. Develop your own version that works for you and master it weekly.

Always leave a few quiet minutes to reflect on the mission of the workout or race. Finally, don't allow yourself to get worked up before the 30-minute mark before any race or hard workout. Stay on task, peaceful, positive, chill, funny, and predictable. Somewhere in the 20-30 minute pre-race time, allow the tension and pressure to fuel and spark you... *not before*.

#### Influencers:

- Distance and Temperature: Long distance and high heat days there are multiple stories of superb athletes basically skipping their warm-up due to excessive heat, especially in events such as 10000m+ in distance. This would not apply to sprint races or workouts.
- Some invitationals and Championship races may curtail your normal Pre-Race Routine. Mentally prepare yourself for this inevitability and don't let it distract you at all. Improvise and handle business – zero loserville excuses allowed - ever!

# Max Speed Day: 40-70m Flying Sprints (FS)

Watch the Flying Sprints video located on our website under the Pro Training page.

The FS workout is expected to be hyper competitive, fast, and fun. Give slower people a head start and everyone just get after it and sprint. Later, we will discuss sprint drills. Your FS day is also a day to try to improve your sprint technique by implementing some of the skills you have learned in your sprint drills.

Keep the acid build-up (pain) to a minimum. This is NOT a test of sprint endurance. We want 4-7 minutes of rest between each short sprint. Some pointers:

- Our total workout distance rarely exceeds 350m. That means you may occasionally sprint 5 x 70m with 4-7 minutes rest between each rep. 5 x 60m makes me very happy inside it's not a workout designed to devastate you. It's designed to improve your maximum speed over the course of months and years.
- This workout is completed once per week, except the final 12-16 weeks of the season. So yes, we do this workout during the "base building phase," or whatever words you use to describe the early season.
- This workout is often completed just before our 1600m 2000m repeats. We usually rest about 10-30 minutes between the two workouts. So yes, we double up separate workouts during the same single practice session.
- Note: We don't ever do strides at the end of workouts. Many, nearly all, smart coaches would disagree with that approach. No problem we just don't do strides like many others do. If we are trying to build speed, we build speed. If we are trying to build the ability to finish a race "strong" we run stuff like very challenging 30K runs<sup>©</sup> runners with the top aerobic power, combined with solid anaerobic speed reserve, are the ones often competing for the win at the end of a race.
- One week you could do 7 x 40m flying sprints. Another week you could do 6 x 50m flying sprints. Another week you could do 4 x 70m flying sprints. Another week you could do 10 x 30m flying sprints. We never go over 70m and I often doubt myself when we are running 70m sprints. We rarely run under 40m.
- We'll do the pre-race warm up before this workout. We use spikes for the actual sprints It's a race! Clear as mud? Watch the video it should help.

#### **Easy Drills vs Sprint Drills**

We do some type of drills nearly every day of the year. The two types of drills we do are classified as "Easy Drills" and "Sprint Drills." Several of our workouts involve both types of drills.

#### Incredibly Important: Sprint Drills

CTC dedicates significant time to studying and perfecting Sprint Drills. Do NOT just go through the motions like you see in many high school or collegiate practices. I regularly tell our middle distance / distance runners that I want them to have better sprint drill discipline and form than the 100m sprinters have. Study, practice, study, and practice some more.

Our Pro page has a link to several Sprint Drills for athletes to study and perfect. For most weeks of the year, we want 2-3 sessions at 20-25 minutes of work. This is not work to make you tired. It is work to make you think and to improve your technique.

Then, on your Flying Sprint days, try to implement some of the things you learned regarding sprint mechanics during your drills. Distance runners tend to think sprinting is just running faster. It is not. Sprinting is a discipline that, we believe, can provide a boost to your overall running ability and athleticism in many events.

Many physiologists will declare your endurance is developed over 7+ years of consistent work. I think sprinting mechanics are developed initially as a young high school / middle school runner, and then developed professionally over about three solid years of work, 20-25 minutes per day, 2-3 times per week. Like I said, couple that sprint drill work with your flying sprints workout.

**Easy Drills**: Easy drills are used before any running or any workout just to get your legs and arms moving and your blood flowing through your muscles. Easy drills are **NOT** sprint drills (most of the time). We have links on our webpage to several standing and ground-based "Easy Drills."

Easy Drills are important as well. Some of the drills cross over into the area known as prehab or other clever terms used in the industry. Basically, we consistently do small amounts of work that build the supporting muscle, tendon, and ligament structures in the body. That small amount of work that - when completed on a daily or few days per week schedule - builds the body's overall strength and resilience.

Easy drills are usually completed for about 10-15 minutes. You can also incorporate easy drills with running. You will see athletes jog 100m, do easy drills for 30 seconds, jog 100m, do easy drills for another 30 seconds, etc.. This may last for 800-1600m before a workout is started. There are several ways to implement easy drills into your near-daily routine.

# Short Hill Sprint & Bounding Day

Watch the Hill Sprint and Bounding video located on our website under the Pro Training page.

This is another workout we do once per week, all season long, except for the final 12-16 weeks of the season. Similar to the flying sprints workout, we use 4-7 minutes rest between each sprint. In the earliest month of the season we may sprint only 4 x 11 seconds – more is NOT better!

Workout set-up:

- Find a moderately steep hill. If your hands can touch ground in front of you while you climb up the hill... it is way to steep. We definitely do NOT want flat or a very slight hill, either.
- We also do long bounds and high bounds after all of the hill sprint repetitions are completed. The bounding is almost always less in duration. Example: If I do 4 x 13 second hill sprints... I may do 3 x 10 seconds of long bounds and 3 x 10 seconds of high bounds.
- The bounding is very important, but it will also hurt you if you are not ready for it. Ease into it or you WILL get the infamous "*Booty Lock*." Okay, Booty Lock is a \$1,000 scientific term I'll try to keep it simpler as we move forward. You'll know the term well once you experience it!
- You are not trying to get winded in the early season. We are looking for a tiny bit of pain, however.
- Around weeks 15-20, this is the most important workout of your week. By this point in the season, the sessions are much harder, like: 4 x 33 seconds hill sprints with 6 minutes rest. Followed by, 4 x 17 second long bounds and 4 x 17 seconds high bounds up the hill. Good luck!
  - We also advance this workout in follow-on seasons. Our experienced athletes are doing more work.
- We'll do the pre-race warm up before this workout. Training shoes only for this workout. No spikes.

#### What do I do and When? - Time Management & Commitment

As you read through our training plan, you may quickly begin to do the math and realize you don't have the time in your day or week to do everything I am outlining in these workouts. Don't panic! Educate yourself, practice, and see what happens when you have mastered a specific skill or discipline.

Maybe you don't have 90 minutes AFTER your workout to work on stretching, massage, and compression. No problem. Start with five minutes of each. However, make sure you prioritize your post workout nutrition as described in this guide.

Maybe you don't have 2.5 hours to do our Flying Sprints, combined with the 12K-15K Pace Work. No problem. Move the Flying Sprints workout to your easy day. You will save some time.

We encourage you to commit to consistently working on your running disciplines and see what happens when you become more proficient in an activity. You may also want to consider becoming more proficient in your academic and social life, to allow you more time to train effectively.

<u>**Commitment</u>**: For the last 18 months I have been realizing commitment, or stick-to-it-iveness, is likely the most important factor in improvement – even at the Pro level. When true priorities get tested, nearly all people cave in and look for an easier road to travel.</u>

Many people use words to explore the idea of being a great athlete; I just don't think they get how committed our athletes really are. It is a lifestyle gladly accepted by each person for their own reasons.

I can't give you the reasons, for sure. I think you have to be wired, or maybe even mis-wired, to elect to live this challenging lifestyle. No regrets and attack with everything you have - my advice. Recently, one of our athletes was reflecting on the common situation of a new person starting to train with her. The results are predictable and routine – the person talks, talks some more, overdoes it, tries for a few days, and then disappears. There are thousands of small steps to greatness – don't try to skip too many at one time.

There is something liberating about knowing you have given a lot of time and effort in your life to dedicate to excellence in a desired craft. That is where I have found peace – after all of the hard work, sacrifice, expenses, setbacks, highlights, and pain has been completed. Even if your personal best 5K is going to be three minutes off the world record – cool! Attack that goal and be appreciative of the work it takes to get there.

## 12K – 15K Pace Work (1600m – 2000m Repeats)

Step 1: What is your estimated 15K time? I use the McRun app from the McMillan training folks often. Enter your known time and distance for an event and it will estimate your 15K ability. It's not perfect, especially if you are a low mileage runner and don't have any 5Ks or 10Ks to go by.

Many training programs do workouts similar to this session. You may hear the terms Tempo Run, Cruise Intervals, Lactate Threshold or maybe some other \$1000 words I am trying steer clear of.

Some workout highlights:

- We prefer to do 1600m or 2000m repeats with only 50 seconds of rest between each rep. The pain level should be moderate definitely NOT devastating. We try to build up to 5 x 1600 or even 5 x 2000m for our 5K / 10K folks. Many new athletes struggle with 4 x 1600 and they'll die if I assign 5 x 2000m okay not quite death. We may even ease younger runners into it with 4 x 1200m workouts.
- This workout is done weekly, anytime before Week 15 of the season. From about Week 16 Week 4, we combine this workout with our 3K Pace Work.
- Up until Week 16, this workout is done right after our Flying Sprints workout. It is a double session, separated by about 10-30 minutes, depending on the athlete's schedule restrictions.
- Many athletes / programs do this workout in a straight 3-4 mile run we do not.
- It's not rare to see our Pro men run this in 5 x 1600 @ 4:48 pace or faster, with 50 seconds rest. Our women will often run 5 x 2000 @ 5:18 pace, with 50 seconds rest. Depends on the athlete's event and abilities. Just basic examples.
- This workout is our top priority workout in the early season for several weeks. By Week 15, it may be a weekly 2 x 1600m at 10-12K race pace, immediately followed by 3-4 x 800 at 3K race pace with a jogging 2 minute recovery.
- It's totally okay to do this workout on the same flat road or trail course each week. It's a good idea to have 4-5 set versions of this workout on a set course or track so you can evaluate your improvement over the months and years.

#### 3K-4K Pace Work (600m – 800m Repeats)

**Step 1**: What is your estimated 3K time? Race it at 98.9% effort, once every 5 weeks in the early season and figure it out. 98.9% effort means you could have run about 30 meters faster in a race, but you saved just a tiny bit during the test.

Some people will use the term Vo2 Max to begin to describe this workout. I don't feel too good throwing that term around and am not aiming for a perfect (whatever that *fully* means) Vo2 Max workout.

Some workout highlights:

- During the 1<sup>st</sup> few weeks of the 26-52 week season, we ease into this workout. We may do 6 x 800m at 5K race pace, or 5 x 800 at 3K race pace. The rest is often 1:1 (which means equal to the time it took you to run the rep). We often walk for 15 seconds after the rep, jog for a bit, then walk for 15 final seconds before starting the next rep.
  - Example: A solid gal with 4:20 miler ability may run 6 x 800 @ 2:25 (5K race pace) in the early season. Her rest between each would be 15 second walk, 1:50 super slow jog, 15 second walk again. Then go again! The workout gradually gets harder and can be quite demanding around Weeks 16 26 ish, of a 40+ week season.
- This workout is our top priority workout in the middle of the season for several weeks. By Week 15, it *may* (maybe not) be a weekly 2 x 1600m at 10-12K race pace, immediately followed by 3-4 x 800 at 3K race pace with a jogging 2 minute recovery. We combine it – the \$500 term for this approach may be "Mixed Zone Workout," for some teams.
- Once adapted to the easier, early season version, we will try to get to 6000 6400 total meters. This could be 8 x 800m or 10 x 600m, etc.. The pace will be much closer to 3K race pace. Many teams prefer 5K race pace we do not. The rest is about 10-20 seconds less than the 1:1 described above. We will throw in a 6 x 1000 or 5 x 1200 about once per season for "excitement."
- This workout pretty much disappears with 4 weeks left in the season for our 800 5000m folks. We may only do it once in the final 30 days of the season, for example. We would also have a different variation / approach for seasoned 10K runners.
- Once per season: 3200m max test. A little less than 1:1 active rest, followed by 3 x 800 at 3K race pace, followed by a 600m all-out test. I then run for the car before the athletes can pick themselves off the track and slap me.

## Long Run

This topic is tough for me to describe accurately. Our athletes grow rapidly in their ability to handle the distance and pace of a long run. 12K may be considered a very long run for a newbie and 30K+ may be a common long run for a highly experienced 5K / 10K runner. One of our top women started the 2022 season with a 22K long run at about 6:00 / mile pace. By Week 17 of the 2023 season she ran a 30K long run at 5:27 pace. The long run highlights more improvement than maybe any other workout.

Like all types of our workouts, we evaluate the long run specifically each season. How can we improve it? We log every single long run on the same page and evaluate it season after season.

We have a long run once per week until about Week 15 for runners who compete in the 5000m or under. Beyond Week 15, the long run is scheduled about every 12 days and is not as difficult or far. The long run goes away around Week 4. The long run is only our top priority workout for about 2-3 weeks per season. It is important, however!

Pace: If I had to assign a pace it would be 45-65 seconds per mile slower than your 2-mile race pace. There is definitely a + / - factor, depending on the athlete. The gal I discussed above ran about 9:15 for 3200m, four months later. So, you can see, her 5:27 per mile 30K was close to the 45 second fast-end pace estimate above.

Examples of four versions of our long run for an experienced, fast athlete that runs 1500m – 5K, with maybe a couple 10Ks or HMs in a year. Again, I'm not comfortable posting these recommendations because many athletes do less or more, depending on what works for them. Newer athletes are nowhere close to these standards.

- 20K @ 45 seconds per mile slower than 3200m race pace, flat course.
- 22K @ 65 seconds slower than 3200m race pace, rolling easy / moderate hills.
- 25K @ 55 seconds per mile slower than 3200m race pace.
- Test Distance When Fully Prepared: 30K, rolling hills, "98%" effort. 98% effort is taken very seriously. We want the athlete to push hard, but they know they absolutely have a little more ability in the tank.

We never ask for a "max effort" or "Olympic effort" for a long run, outside of an actual important race. It is **IMPORTANT** that you are fully recovered 48-72 hours after the workout. If this is not the case, you are pushing yourself too hard and may increase your chances of burnout or injury.

#### **Post Workout Recovery**

There are a few aspects to post-workout recovery: Ours include nutrition, stretching, rolling, compression, massage, and ice bath. Athletes with some types of injuries may have other post-workout assignments.

**Nutrition**: Once the last running step is completed during a workout, it is time to start the food intake – literally on the infield of the track or at the road location where we finish. We have found success with Endurox R4. We use it about four times per week, immediately following the running portion of our workout. Substitutes include a peanut butter and jelly sandwich with a glass of milk. Our Kenyan athletes have their own recipes and favorites. Bottom line, get the nutrition into your body, and make sure it is the type of nutrition that can be absorbed into the blood stream and muscles very quickly. A steak dinner 60 minutes after practice is not the same as "Post Workout Recovery." Get this important part of your training day figured out!

• Your goal should be to gain 100% of the available improvement from each workout you do. Failure to eat / drink the proper nutrients immediately after a workout is likely going to take away from the potential gains.

**Stretching**: Our website includes a stretching video series by a former high-level runner, who has a PhD in Physical Therapy. He is aware of some of the debates about the effectiveness of stretching and he provided us with his educated and gut-feeling recommendations. We stretch for about 20 minutes, immediately after the workout, while ingesting the post workout nutrition.

**Foam Rolling / Trigger Point Massage Balls**: We've linked a few videos of this important recovery discipline on our website. Study the concepts yourself and develop an effective rolling routine. My belief is we have muscle tightness, imbalances, and fascia scar tissue that may lead to imbalance and injury in athletes. A consistent regime of rolling and massage improve the likelihood that you can train injury free more often. Our foam rolling session takes place immediately after the 20-minute stretching session. Foam rolling is also used during our pre-race warm-up discussed earlier. We use the foam roller for about 20 minutes.

**Compression Pants**: The Normatec pants have been in our recovery toolbox for a few years. Athletes can use these pants 1-2 times per day. For us, we shower after the workout is over, then have a snack and chill while the Normatec pants do their work on circulation.

**Massage**: Many athletes value massage – who doesn'ti. If you cannot afford a good sports massage therapist, then study the discipline yourself and use the Trigger Point Massage Balls and rollers discussed above.

#### **Recovery Runs (Easy Runs)**

We use recovery runs about 4-5 days per week. Sometimes a recovery run is done in the afternoon, after a difficult workout in the morning. One example would be our Hill Sprints & Bounding day (often Fridays) in the off season. The afternoon recovery run is about 8K at a very comfortable pace – usually around 7:00 per mile pace, give or take (for a 4:20 male or female miler).

What should the Recovery Run *pace* be? Good question. Whatever pace you need to:

- Stay healthy,
- Recover,
- Perform well during the next difficult workout or race,
- and most importantly improve your times!

Some athletes think easy run pace is 8:00 per mile, 5:45 per mile, or whatever. Maybe, maybe not. Meet my 4 criteria above and I'll agree with you.

What is the *distance* of the Recovery Run? This depends on your target miles per week and the event you are training for. On some days in the early season, our recovery run is 20K. On other days it is 5K. There is a wide range, depending on the athlete. If someone is trying to hit 105 miles in a week, it is difficult to have a 5K Recovery Run, unless it is only 1 of 2 workouts that day. Likewise, if a newer runner is trying to hit 35 miles in a week, the Recovery Run could be quite short.

One important goal of the Recovery Run is to "flush the muscles" of any damage done during a difficult workout earlier in the day or from the previous day. Another purpose is to relax, get a little cardio in, and enjoy your inspiring surroundings. We demand a lot on difficult days; there must be a balance on the easier days.

We also use Recovery Runs on race day. Once the race is over, the athlete begins a post-race routine that aids in recovery. This involves jogging, walking, and some easy drills. We want some low heart rate-type work that helps to flush the system.

Finally, we encourage all athletes to insert an extra Recovery Day if they feel like the training load is overwhelming them.

## Weekly Mileage

One question that gets asked in a roundabout way with many athletes is, "Is CTC a high mileage or low mileage program?" It *depends* on what each athlete needs and your definition of high mileage. Some think 35 miles per week is high mileage; others 85.

- High School Athletes:
  - We want to see 3200m boys progressing towards a 52.7 in the 400, while increasing their mileage. With our 3200m girls, we want to see about a 59.1 in high school. Milers would be faster (50.0 / 58.0); 800m runners even faster (49.0 / 57.2).
  - If the athlete cannot obtain that 400m standard, we will tend to cap boys at a moderate 42 miles per week (2,184 per year) and girls at 38 miles per week (1,976 per year), regardless of ability to run more. However, a Senior averaging 42 miles per week for an entire year is not that common (many people tend to reference their highest weekly mileage, but the annual total often reflects much shorter weeks).
  - This max mileage is lowered even more if the athlete is not even close to the 400m standard. We will spend time and energy on more tactics that improve athleticism.
  - Please understand, we want athletes and nearly all top middle distance and distance athletes beyond HS have a pretty good range of abilities in many events.
- Please do a little research on some of the top marathoners in the world Eliud Kipchoge and Sifan Hassan. Look at their 1500 or mile personal bests. I know these two are exceptional athletes, but you'll often see a comparative range trickle down to the high school level as well. A state champion level 3200m runner is often an excellent 4 x 800 team member, and even does well on the 4 x 400 team for a decent school. My point: great athletes have range!
- **Pro Athletes**: We take a similar approach. We want to see the 5000m men at 49.5 in the 400 and women at 56.4, minimum. We are careful (not prohibitive) to send our pros off to a high mileage regimen if they cannot meet these standards. We tend to cap the men and women at 63 miles per week (3,276 per year) while we work on the speed component this work can take 12-30 months. If a "Pro" is way off the 400m standard, we may point them toward marathon training sooner, as their career may be short-lived without some basic speed (very few exceptions).

#### High School – How a 26 Week Season Unfolds

Remember, we count the weeks backwards. Peak Race Day is "Week 0." 26 weeks before race day is Week 26. Therefore, Week 20 of the season means we have 20 weeks until the Peak Race Day.

**Weeks 0-2**: Final Speed Season preparations. Peak races, a couple very high-speed workouts and tests, and a focus on good recovery – peak the hormones that aid in racing well.

**Weeks 3-7 or 8**: Final Speed Season – FAST Work! Slightly less reps than the previous weeks and very high speed, difficult workouts. The painful workouts are preparing the athlete to compete well and tolerate high-paced races without much mental stress.

**Weeks 7 or 8-13**: Early Speed Season – Transition to FAST Work. We finish up some very difficult Hill Sprint & Bounding workouts and transition in some workouts such as 6 x 400 (3 minutes rest) or 4 x 300 (10 minutes rest) at nearly top sustainable speed for all reps. The 1<sup>st</sup> few weeks are 97%, then 98%, then 99% effort workouts. We don't want an injury from too quick of a transition.

**Weeks 11-14**: Hill Sprints & Bounding. This key weekly workout is the bridge, no – the catapult, between our early season preparatory work and our speed work and competitive meets. We will also have a significant test with a Long Run at the beginning of this period.

**Weeks 14-21**: There is lots of moderately challenging work going on each week, but nothing devastating. We are running some higher mileage weeks and the athlete may feel a little "flat," while coping with all of the work. Don't allow any workout to push the athlete over the edge into exhaustion. The 3K - 4K Pace workout is taking center stage during the training week. Time Trials: 300, 400, 500, or 3000m time trials are conducted – we do a shorter distant one every 2.5 weeks and then a 3000m test every 5<sup>th</sup> week.

**Weeks 22-26**: The initial part of the off-season must NOT be easy. We are re-acclimating the athlete to the weekly routines. Lots of easy / moderate work, nothing devastating, introduce the athlete to everything. Yes, we are doing the Flying Sprints and the Hill Sprints & Bounding workouts during this part of the season. Time Trials: 300, 400, 500, or 3000m time trials are conducted – we do a shorter distant one every 2.5 weeks and then a 3000m test every 5<sup>th</sup> week.

**Time Trials**: The week that we do a time trial, we often eliminate or reduce a similar workout to make room for the test. Example: If a 3K test is completed, we will alter or eliminate the 3K-4K workout that week. If a 300, 400, or 500m test is completed, we will eliminate the Flying Sprints workout and then move the 12K–15K pace workout to later in the day.

#### Pro Team – How a 52 Week Season Unfolds

Remember, we count the weeks backwards. Peak Race Day is "Week 0." 26 weeks before race day is Week 26. Therefore, Week 20 of the season means we have 20 weeks until the Peak Race Day. Write this down a few times, with your own examples, and it may become clearer.

**Weeks 0-2**: Final Speed Season preparations. Peak races, a couple very high-speed workouts and tests, and a focus on good recovery – peak the hormones that aid in racing well.

**Weeks 3-8**: Final Speed Season – FAST Work! Slightly less reps than the previous weeks and very high speed, difficult workouts. The painful workouts are preparing the athlete to compete well and tolerate high-paced races without much stress. Described in more detail later.

**Weeks 8-16**: Early Speed Season – Transition to FAST Work. We finish up some very difficult Hill Sprint & Bounding workouts and transition in some workouts such as 6 x 400 (3 minutes rest) or 4-5 x 300 (10 minutes rest) at nearly top sustainable speed for all reps. The 1<sup>st</sup> few weeks are 97%, then 98%, then 99% effort workouts. We don't want an injury from too quick of a transition. All the prior work has led to the ability to do this. Described in more detail later.

**Weeks 22-17**: Hill Sprints & Bounding. This key weekly workout is the bridge, no – the catapult, between our early season preparatory work and our speed work and competitive meets. We will also have a significant test with a Long Run during this period. The 3K-4K pace workout is still very important. Make sure the athlete has reasonable recovery days mixed in – this is not the time of the season to be seeking devastation in the workout.

**Weeks 35-23**: There is lots of moderately challenging work going on each week, but nothing devastating. We are running some higher mileage weeks and the athlete may feel a little "flat," while coping with all of the work. Don't allow any workout to push the athlete over the edge into exhaustion. The 3K – 4K Pace workout is taking center stage during the training week. Time Trials: 300, 400, 500, or 3000m time trials are conducted – we do a shorter distant one every 2.5 weeks and then a 3000m test every 5<sup>th</sup> week.

**Weeks 52-36**: The initial part of the off-season must NOT be easy. We are re-acclimating the athlete to the weekly routines. Lots of easy / moderate work, nothing devastating, introduce the athlete to everything. Yes, we are doing the Flying Sprints and the Hill Sprints & Bounding workouts during this part of the season. Time Trials: same as discussed above.

Do we take weeks off between seasons? No. Not with the Pro team and not with HS athletes. We have some "off-load" weeks that we use during common vacation periods (Christmas), planned vacations, poor weather streak, or a couple times per year on purpose – lower mileage and less stress. We also don't hesitate to ease up when an injury feels like it is closing in.

#### **Core Work & Testing**

As discussed, we build athletes. One aspect of athleticism is superb core strength. The push-up and crunch are longstanding tests used for core strength. That doesn't mean we do a lot of push-ups or sit-ups / crunches in our workout regimens - However, both exercises are an excellent and quick <u>test</u> of core strength.

Once we commence training with a new athlete, we want to develop them to the following standards:

- Push-up Test: Only 45 push-ups per minute allowed. Therefore, speed / momentum cannot be substituted for form. All the way down... all the way up. We want men at 65, women at 43. No resting on the ground. The test if difficult if one is a stickler for form.
- Sit-up Test (crunch): 3-minute test. No more than 40 sit-ups per minute. Elbows touch mid / upper thigh in the up position. Shoulder blades to ground in the down position. 120 is the required score for men and women. Therefore, it would take the entire three minutes to get a perfect score.

If an athlete reaches these scores, we are "comfortable" with his / her core strength and will focus on improvement elsewhere, with minimum focus on core strength – just testing.

Most of our athletes require 5 Core Work sessions per week x 33 minutes each, from weeks 26 (52 for Pros) to Week 10. We begin to taper down the core workouts toward the end of the season (Weeks 10 - 0). The Core Work for the final week, for example, may be a 5-minute session, twice per week (super easy).

There is reasonable belief that sit-ups are not great for the spine. We accept that finding and our daily core work does not require sit-ups / crunches. However, we use the crunch test for the purpose of testing.

Our website contains a link to several core exercises. Athletes are welcome to find additional core exercises... AS LONG AS THEIR WEEKLY TEST SCORES CONTINUE TO IMPROVE TOWARD THE STANDARD! Don't *talk* about your 500 core exercises and the benefits of your yoga stances, while your core work test scores are mediocre – no bueno!

**Note**: If an athlete meets these standards prior to Week 15, we back off the core work quite a bit and focus on speed and recovery for the end of the season. We are not conducting core tests 4 weeks before a peak race – nowhere near a training "priority" at that point in the season.

## Speed Season – Early Competitive Season

With approximately 15 weeks before the Peak Race, we change the training to focus on speed work. This phase is basically split in half. The two halves are described as "Fast and Painful" and "Faster and More Painful."

This long-term approach is what separates high-end high school runners from the normal folks. The high-end runner has done the prep work throughout the year and can spend much of the 12-14 week track season working on the faster reps needed for success. The slower kids (and coaches) try to / are forced to – fake an entire training year into that short season.

We switch to a 1:4 day workout rotation (microcylce), with three variations (kind-of a 1:12 total day rotation). Days 2 and 4 are always recovery days (Day 4 being slightly easier than Day 2).

- Day 3 has three versions. It replaces the 3K-4K, and 12-15K, long run workouts with a mixed zone workout. All three versions have less total volume than the workouts you have previously been doing. The Long Run (every 12<sup>th</sup> day) is cut down by about 25%, maybe more.
- Day 1 is a total kick in the pants (front half of the pants for our male athletes.)
  - Version 1: 6x400m with about 3 minutes rest between each. Accumulate the best 6 x 400m total you can! Version 2: 5 x 300m. 10 minutes rest between each. Obtain the best possible overall time. Version 3: Meet or Time Trial very HARD effort!
    - Time Trials and meets are planned to build toward the end of season success. We may have an 800m purposefully racing a 3000m 8-12 weeks before the peak race, and racing 1500m 4-6 weeks before a peak race. This approach is very IMPORTANT and flexible, depending on the athlete. The races are not random distances selected based on chance and availability. EVERYTHING has a purpose!
  - We ease into Day 1 until the athlete feels good about going 99-100% effort. 97% in Week 15, 98% effort in Week 14, 99% effort in Week 13... see if you are ready to ATTACK by Week 12.
- We add in an extra Day 4, or a day off, when the athlete is fried very important to identify!
- Our recovery runs each day are pretty substantive. The volume is still reasonable.

#### Speed Season – Pointy End of the Season

About Week 7 – Week 2 (Maybe Day 09), we lower the rep count and give the athlete a chance to increase speed even more.

Day 1 switches to 4 x 400 with the same 3 minutes rest. Try to break your records for these workouts. ATTACK & COMPETE! Our women are under 60 per rep. The men are under 53, in many cases.

Another version of our Day 1 is 4 x 300m with 10 minutes rest. Again, ATTACK this workout!

Another version of Day 1 is "*Cerutty Clarity*" – a 1K Steep Hill Race. Brutal and makes many other workouts and races seem pleasant<sup>(2)</sup>

The Long Run is scaled back and disappears with a few weeks to go.

The Day 3 work scales back as well, depending on the athlete and their strengths. This mixed zone workout is conducted at faster paces, but lower total workout volume.

The distance of the extra Recovery Runs drop down / off quite a bit; Weekly volume is drawn back. RECOVERY between workouts and races is the PRIORITY!

Time Trials and races are very important and selected with a purpose!

Hormones, rage, and competitiveness is the goal! Capitalize on the peaking phase of our training. Don't prioritize workouts that don't lead to event success! This is the small portion of the year / season that we want you amped up and raging against your competitors.

**Over-Race-Distance**: One concept to explore is racing beyond your preferred race distance, when to do it, and how to do it. For many 800m runners, for example – we will have a strong Long Run test around Week 15. We'll then do a 5K test around Week 13. Then, a 3K test by Week 11. Then a 1500m test with about 8 weeks to go and a 1K or 1200m test with about 5 weeks to go. Then, we dial in on the 800 distance. All along, we have been working those Day 1, Version 1 & 2 workouts which consist of very fast and painful 400m or 300m reps.

For 5K runners, one of the two major avenues toward building a better 5K is working to build a better mile time, which often includes a better 800 and 400 time as well. Endurance work counts a ton, no doubt – we get it. However, it seems like we spend a little more time throughout the year building upon the faster skills needed for success. Perhaps, I will settle out in the future and spend more time on the traditional workouts; for now, however, the shorter stuff is getting us closer to the elite end of world competition.

## Weight Training

Our weight training routine is also outlined on our webpage. We basically took it from the Nike speed folks. Visit our website and find every aspect of our lifting program, including the video explanations and Nike podcast.

Here are some basic guidelines:

- General to Specific:
  - Many programs do "general" training in the early weeks of the season. This may look like high repetitions, low weight, many exercises. You are basically working the joints and muscles from many angles to try to develop some of the smaller muscles and support structures, while giving the entire body a workout.
  - Then, "specific" training is for us much higher weight, low repetitions. We are working to build sport-specific power (power = strength + speed) to run faster. As already stated, we are building athletes! We want our 5000m runners to be very competitive in the 1500, which also means they can run a strong 800, which often means they can run a respectable 400.
- **Workout Pairing**: When at all possible, complete your most important weekly weight training sessions shortly after your high-speed running sessions. For us, that means weight training is paired with the Flying Sprints workout and the Hill Sprints workout.
- We see a fluid connection between our core work session and our weight training regimen, hill sprints, flying sprints, long run, and various paced workouts. Everything is working together to build faster athletes. Hopefully, the runner is spiraling UPWARD in nearly all facets of their athleticism.
- We use more exercises during the general phase of our training. For the final 20 weeks of the season (specific phase), we dial it in on the Hexbar Deadlift, Explosive Jumps, Bent Over Rows, Bulgarian Split Squats, Single Leg Jumps, and Single Leg Drops.
- Athletes should take a very long-term approach to lifting. Be comfortable spending 2-4 months simply working on proper form. Then progress at a very reasonable pace to reduce the chances of injury.
- If an athlete is improving rapidly without weightlifting, I'll often slow the lifting down and focus on excellent technique... maybe even for a few years.

#### **Racing Strategy and Pacing**

There are two common types of racing: Tactical and Personal Record / Best (PR or PB). Sometimes, tactical racing can also lead to a personal record, especially for slower athletes.

- **Tactical Racing**: Often used in meets that require rounds. The athlete doesn't want to expend unnecessary energy that can jeopardize the next, more important round. The athlete must be careful to avoid being boxed in with 300m to go (the lead runners can separate, and you'll be unable to respond). Tactical racing normally works best, only if you are clearly faster than nearly all other athletes in your heat. If this is the case, it's best to hang around the lane line between lane 1 and lane 2 when the runners start to pack together don't allow yourself to get pushed against the rail, unless you are out in front of the pack.
- PR or PB Racing: Great athletes, going for a PR often use a technique similar to this:
  - o **400m**:
    - Distance Athletes: Sprint all-out, like you are trying to set a 250m world record. Then survive the final 150m. Do NOT pace yourselves <sup>(2)</sup> <sup>(2)</sup> <sup>(2)</sup>
    - Sprinters: 98%+ acceleration over the 1<sup>st</sup> 75m. Then ease into a high-speed glide (or float) for about 125m, then PUSH for about 5 seconds, then return to the high speed glide for about 40m, then PUSH again... then you are nearing the finish: knees pop up quickly, powerful arm cycles, and work to keep your posture upright.
    - The last 50m is a beast for either type of runner; things begin to crumble!
  - 800m: Lap 1 should be approximately 5.0 seconds slower than your 400m PR.
    Lap 2 will be approximately 2 seconds slower than lap 1.
    - Example: My 400 PR is 54. My 1<sup>st</sup> lap of the 800 should be a VERY EVEN PACED 59.0 (14.25 per 100). My second lap should be able to be a 61. My final time would be 2:00.
  - 1500m / 1600m: Lap 1 should be even paced, and about 1 second slower than the goal race pace.
    - Example: 4:00 1600m ability. Lap 1 is an even paced 61. Lap 2 and 3 are both 60s, attack lap 4 and aim for the 59 you need.
  - 3000m / 5000m / 10000m: The 1<sup>st</sup> 1600m should be about 1-3 seconds slower than the goal pace (2 seconds slower max for the 3K). Very even paced. Then get on the goal pace and finish progressively stronger with about 600m to go.
- There are instances when many runners in a race require you to get out a little faster.

#### **Talent vs Work Ethic**

Are certain athletes from "X" country / continent of the world more inherently talented than others from another country?

I don't have a coherent argument for this stance. In some ways, yes. However, I'm not convinced this precludes athletes from any specific country from excelling in the sport.

#### Factors to Success:

- 1) Basic Talent Ceiling (vague and dangerous to assume),
- 2) Local Culture (team, town, family, running surfaces, weather, and occupational / familial health),
- 3) Competitive Maturity (has the athlete been taught (explicitly or implicitly) to quit or panic when faced with adversity),
- 4) National Culture (opportunities, pride in performance, recognition, respect).

I've worked with athletes from the US, Ireland, Ukraine, India, England, Argentina, and athletes from Kenya.

Many people "talk" about wanting to run fast. They can talk you to death, as with their parents in some cases. Yet, they don't commit to the consistent and whole strategy. The moment of adversity or doubt arises and they expend loads of energy convincing themselves another approach is better. They are out of the sport within months or a few years.

Others are not mature enough to compete with reckless intensity in the heat of a real race. They bail... just at the point of decision where winning becomes a possibility. They cite all sorts of "good" reasons: injury, priorities, future endeavors / plans, god / God, whatever the reason.

A large portion of athletes in the US have a lot of distractions. Each distraction can test the athlete's commitment to the challenging lifestyle of training and running fast. Distractions can be quantified as good distractions as well (lucrative career opportunity, family responsibilities).

On the Kenyan side, however, there seem to be more athletes close-to-fully committed to this running thing. The culture, the economy – just about everything reinforces the potential for success in running. There seems to be fewer distractions, good or bad distractions. That may be the difference my friends.

#### **Keeping Logs and Timelines**

We keep separate logs of EACH type of workout. We also have several key workouts that we return to often. The indicators of a good training program are:

- Improvement in key race times, season after season.
- Increased training speeds, and eventually training volume, season after season.

Example of training logs (use dates as well):

- Keep a spreadsheet, diary, date, and list of each of your:
  - 5 x 2000m workouts with 50 seconds rest (track or road)
  - 5 x 1600m workouts with 50 seconds rest (track or road)
  - 6 x 400m with 3 minutes rest (high intensity)
  - 4 x 400m with 3 minutes rest (high intensity)
  - 5 x 300m w/ 10 minutes rest (high intensity)
  - 4 x 300m w/ 10 minutes rest (high intensity)
  - Each type and course of your Long Runs (include the average heart rate for these runs as well)
  - o 8 x 800m workouts with the rest described in the previous chapters
  - 10 x 600m workouts with the rest described in the previous chapters
  - Your Hill Sprint & Bounding sessions
  - Sit-up and Push-up tests
  - o Time Trial results for each distance tested
  - Track races or road races
  - o Etc..

Balance out the direction you run around the track each week. Don't run 90% of your laps in the normal direction.

It's totally okay to have 25-30 different types of workouts for the sake of variety – we do as well, on the track and on the roads. Just keep track of your performance with each workout and keep a log. Keep the mile markers precise so you have a quasi-scientific reference point.

Each season we may be increasing overall mileage (training volume). Accurate logs help us to see what is bringing improvement at the highest rate of return, and what may not be leading to improvement.

I'm not really interested in a day-to-day log that requires several hours to figure out. I prefer the log above that lists specific workouts by category, preferably by the exact category.

# Thank you & Conclusion

I could keep writing another 100 pages about why I think you should run fast, or about training philosophy and studies. Many other books cover those ideas already and I doubt my beliefs could hold up to rigorous academic scrutiny.

I think that information - as popular as some may think it is - is not for the competitors in the arena who are actually willing to do the training and who are willing to compete by reaching into the dark and insecure places of the soul – in practice, and races.

The fastest people I work with don't talk much about their Vo2Max, Anaerobic Speed Reserve, or other niche terms. I used to throw those terms around a lot - not too much anymore. Just do the consistent work - for many seasons - and become faster in the 300m sprint, the 3,000m run, and have an excellent long run ability. Build relationships, a competitive team atmosphere, and trust. Once you have maxed your 10K and below ability, jump into the world of marathon training if you want.

Many of the world's top marathoners started with much work and success with the track distances as well – not a coincidence – ATHLETE'S WIN!

**Final note on details**: I've had high-level athletes "following the CTC program," only to visit their training session and find out that, instead of a 50-second rest, they are utilizing a 2:30 second rest between reps. It is very difficult to make well-informed adjustments to your training plan if you are all over the map when it comes to standardization. Every athlete needs adjustments – stick to the plan and the adjustments are easier to identify and implement.

Enough said and thank you for supporting the Colorado Track Club.

Feel free to call, text, or email questions about this guide and our website.

We ask that you consider supporting the Club via tips or membership at our team store – found on the website's home page. Or - you can leave a tip there as well. This website has definitely not been free to develop and we appreciate any financial help we receive.

Thank you and GO FASTER!

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