

## You Know Better, But I Have to Say it:

You should consult with your primary health care physician before beginning any nutrition or exercise program. Use of the programs, advice, and other information contained in this guide is at the sole choice and risk of the reader.

Now, let's get to the fun stuff.

## Also by Jason Fitzgerald:

101 Simple Ways to be a Better Runner: A Short Guide to Running Faster, Preventing Injuries, and Feeling Great


## What's your goal?

Qualifying for Boston
Racing a local 5 k
Running your first half-marathon
Setting a new 1ok PR
Running your first trail race

Whatever running aspiration you have, this guide can help you achieve your goals.

## Table of Contents

About Me
Why did I write this book?
How to use this book
Endurance is King - Becoming an Aerobic Powerhouse
Sprinting 101: Distance Runners Need Speed, Too
Fartlek Workouts (Skip the Track)
Hills $=$ Strength
Get on the Pain Train: VO2 Max Workouts (and more)
Fun Runs, With or Without a Group
Bonus: My 2:39 Marathon Training: Long Runs \& Key Workouts

## About Me

I've been running since 1998 and have competed in everything from the 200 m to the marathon. I'm not the fastest guy out there, but l've had some success.

I started running cross country as a freshman in high school. I barely finished 3 miles and then had trouble walking for a week.

But I stuck with it because the team was fun. After a few months, I realized I had a sliver of talent so I signed up for indoor track.

Flash forward to my senior year: I was Captain of the cross country team, two-time All-Conference,
 and ran fast enough for it to help me get into college.

At Connecticut College I started running more with longer, faster workouts. The injuries started immediately, but I managed to run 26:19 for 8 km cross country and finished gth in New England for the 3,000m steeplechase.

After college, I was still getting hurt: Achilles Tendinopathy, lower back pain, quad strains, and plantar fasciitis.

Still, there are some races I'm proud of. I ran 1:13:39 for the half-marathon and 54:50 for ten miles. I did a sprint triathlon and ran 10k cross country in 33:41.

I also ran my first marathon at New York in 2:44:38. I'm most proud of this race because of the six months of preparation and the effort it took.

But after the marathon, I couldn't run for six months because of a severe illiotibial band (ITB) injury. I devoted those six months to learning how to injury-proof my body.

Since then...

- I overcame my ITB pain.
- Small aches and pains happen, but l've only had one injury since the Spring of 2009.
- In 2010, I won 4 races - more than any other in my 12+ year career.
- I set annual mileage records in 2010, 2010, and 2013 (with no serious injuries).
- My comeback marathon at Philadelphia was successful: I ran 2:39:32 and broke my previous personal best by over five minutes.

I decided to share what I learned and help other runners avoid my mistakes. I started Strength Running in 2010 and it quickly grew to one of the largest running blogs on the web.

It now hosts over 200,000 monthly readers and my coaching has been featured on Runner's World, Competitor, Health Magazine, Lifehacker, and many more.

But more importantly, I've now helped thousands of runners just like you record new personal bests, get stronger, and stay healthier for longer than they thought possible.

You can read the growing collection of Success Stories here.
And I know I can help you, too.

## Why Did I Write This Guide?

My training philosophy is very different now than what it used to be. I'm having more fun, training harder, and getting injured less.

This is what running should be like.
Can you imagine how you'd feel if you could run more, at a faster pace, with fewer injuries... and feel better while doing it?!

That's what I'd like to help you with today.
Now, I do things much differently, and a big part of that is in the workouts that I run. I run a lot of different types of workouts these days.

One of the hallmarks of my new training is that I include a lot of variety. I run lots of different paces, workouts, and terrain while training.

Different paces and workouts stress your body in different ways. By varying those stresses, you're not relying on the same muscle groups at all times.

Flat roads will require a different effort than hilly trails. The same is true for a track workout as opposed to a fartlek over rolling terrain.

Alternating the types of workouts you can help you reduce your injury risk, make you a more efficient runner, and improve your outlook on training (it's too boring to do the same workout every week!).

That got me thinking - how many workouts do I know about? I started keeping a list, and before you knew it the list had grown to over 40 workouts.

With a little more thought, I expanded the list to 52 workouts. That's a different workout for every week of the year.

I want this list of workouts to help you get out of a rut. I want to help you get excited about running again.

I want to challenge you. I want to give you workouts that will transform your training. I want you to run more.

I want you to PR.

## How to Use This Book

You shouldn't do the workouts in this book every week for a year. Every workout has a purpose and your training wouldn't be very cohesive if you did that.

Instead, pick and choose workouts from each section based on your goals. Each section will have a different focus, from sprints to long runs and even barefoot running.

Some of the workouts are incredibly challenging and you may not want to attempt them. Others are quite easy (and that's often the point).

Feel free to mix and match workouts. You can do more or less depending on your fitness level. No running program is set in stone and you can edit a workout as much or little as you want to. The only limit is your creativity.

Use these workouts as inspiration to work hard toward your goal. Make sure to have fun.

PartI

## Endurance is King - Becoming an Aerobic Powerhouse

"No one will burn out doing aerobic running. It is too much anaerobic running, which the American scholastic athletic system tends to put young athletes through, that burns them out." - Arthur Lydiard

These workouts are designed to maximize your aerobic potential and develop lasting endurance. They're long. They're hard. But they will make you stronger than you ever have been.

Workouts will include long runs, tempo workouts, marathon pace runs, and longer fartlek sessions.

I think everyone should do a long run (even if you're just training for a 5 k ), but these are geared for anybody training for longer distances ranging from 10 miles to the marathon. These workouts will give you the stamina to dominate your next race.

You won't be worrying about finishing. You'll be worrying about how fast you're going to negative-split the second half!

Further reading: Endurance Training Q\&A

## Up-Tempo Long Run

The up-tempo long run is a challenging long run at a faster pace than your typical distance run. After a 2-3 mile warm-up, start running 20-30 seconds per mile faster than your normal running pace.

This workout shouldn't be done every week but provides a stronger aerobic stimulus than running easy. You should already be comfortable with your long run distance before running it faster.

## Progression Long Run

The progression long run ends with 2-5 miles significantly faster than your standard distance running pace. You will be running at your tempo pace, or even a little faster, at the very end of the progression.

At the start of the progression, you increase your pace by 20-30 seconds per mile and gradually get faster. You can end as fast as you like, but if you end the run very fast then you should do 5-10 minutes of easy running as a warmdown.

To use me as an example, I like to do 3 miles of progression running at the end of long runs. My typical distance running pace is about 7:00 per mile, so my progression mile paces would usually be about 6:30, 6:00, 5:40.

## Long Run with Speed Bursts

This type of long run is one of my favorites because it's highly beneficial, but not that difficult to complete.

During the last 1-2 miles of your run, run several surges at a much faster pace. They can be anywhere from 15 seconds to a full minute long and should be anywhere from a full sprint to your 5 k pace.

Jog for 30 seconds to 2 minutes in between each repetition. You can do as many or as few as you like - I prefer 4-8 reps, depending upon the length of the repetition. And remember, the longer and faster the reps, the more recovery you need.

These short bursts help you develop a quick turnover when you're already tired, and helps you learn how to run fast when fatigued. This skill will definitely come in handy during the last few miles of your next race!

## Long Run ending with MP Finish

I personally used this workout as my standard long run when I got ready for the New York City and Philadelphia Marathons. It's very difficult and teaches your body how to run fast when you're already tired.

Since the pace should be as close to your marathon pace as possible, I prefer running the last 3-6 miles on the track (I'm skeptical of the accuracy of GPS watches...). Start at your goal marathon pace and run as even as possible for the remainder of the effort.

For added difficulty (once running even is manageable), negative split each mile by 2-5 seconds.

Since you'll be finishing at a track, you either need a track in your backyard or will need a friend to pick you up (with recovery fuel, of course). I had my wife pick me up with a banana and a protein shake - . She's a trooper.

## Long Run with Interval Miles

When I was gearing up for my 10 Mile debut, I used this long run to prepare me for a grueling race. It's very difficult, but helped me run a minute faster than I thought I could and negative split the last mile in 5:09.

About two-thirds into your long run, get on the track and run one or two miles at a very challenging pace. For me, it was about my 8 km race pace. Experiment with your half-marathon-10k pace and find what is manageable.

If you are doing two reps, take 800 m as a jogging recovery. When I was running 18 miles for my long run, I would run 14 miles to a track, do $2 x$ mile with a half-mile recovery, then a 1.5 mile warm-down.

Since this workout is so challenging, don't do it two weeks in a row. It also helps sharpen you for racing fast, so avoid it during a base phase. Only more advanced runners should attempt this type of long run.

Elite marathoner Khalid Khannouchi (former world record holder) relies on this workout to prepare him for the marathon, so you know it works!

## Over Distance Long Run

This long run is, you guessed it, long. Typically reserved for those training for a marathon or ultramarathon, it's typically a run that's longer than 22 miles.

I personally don't believe it's necessary to run this long to run a good marathon. The injury risk is higher and the endurance benefits reach a point of diminishing returns.

But it works for some people and can be beneficial for ultramarathoners. Make sure you are comfortable at other longer distances and are well prepared. It will be difficult from a physical and a mental perspective.

Additional Reading: The Beginner's Guide to Ultra Running: How to Run Your First Ultramarathon

## Marathon Simulation Long Run

This is a fun long run. If you are preparing for a marathon, get out on the course and start this run at the 4-7 mile marker.

Now you can run most of the marathon on the course to get a feel for the turns and terrain. Many people do this for the Boston Marathon to better understand the hills in Newton and the classic finish on Boylston Street.

Clearly, you don't have to run on the marathon course before your race. But it can be helpful to have a good understanding of the course before you toe the line.

## Hill Climb Long Run

This long run ends with 1-4 miles uphill or with a rollercoaster run (see Rollercoaster Run in Part IV - Hills = Strength).

You're going to be tired heading into this, so keep your effort steady. There's no need to run faster on the hills, you'll be challenged enough trying to run the same pace.

This type of long run builds a lot of leg strength, aerobic capacity, and helps with your race kick. Start with running only a mile uphill, and progress when that is manageable.

## Marathon 2-Milers

Perfect for marathon preparation, this workout helps you dial in your goal marathon pace and is a good transition workout before a longer marathon tempo.

Based on your current fitness level, run 2-4×2 miles on the track at your goal marathon pace. Take a 400 m recovery jog between each at a very easy pace that allows you to recover for the next repetition.

Try to run as even as possible so your brain and muscles remember what your marathon pace intuitively feels like.

## Marathon Specific Tempo

This workout is longer than a standard tempo, but at a slower (marathon) pace. After a 2-3 mile warm-up, run 8-12 miles at your goal marathon pace on similar terrain to the race itself.

If your marathon is on a hilly course, run this workout on a hilly road. If it's a trail marathon, run it on the trails. You get the idea: specificity is crucial.

Take 1-2 miles to warm-down. You can use a Garmin to measure the distance and your pace or run by feel. You could also run this workout on the track if you don't mind all the laps. But you miss out on the terrain specificity.

## Negative Split Tempo

This is one of my favorite types of tempo workouts and one that I do often. It develops a lot of aerobic capacity as you progressively get a little faster - from your marathon to 10k pace. For a sharpening effect and to work on your kick, run the last few minutes even faster.

This tempo is best run on the track or a loop where you can measure your splits. Over $4-7$ miles, run progressively faster every half-mile. Start at your marathon pace and work down to your 10 k or 8 k race pace.

I've done this workout many times on a trail loop that's just over 2,000m. To get a sense for how to negative split this type of workout, see my loop splits in 8:00, $7: 58,7: 36,7: 26$, and $7: 11$ before the NYC Marathon.

## Tempo Sampler

This multi-pace workout uses several tempo paces. Pick three - your marathon, half-marathon, and 10k pace. Alternate repetitions at the different paces with a 200m jog recovery. It's much easier to do this workout on the track because pace is important.

A favorite example using this strategy is $4 \times 2,000 \mathrm{~m}$. The first interval is at your goal marathon pace. The next two are run at your half-marathon pace, and finish with a 2 k rep at 10k pace.

## Long Tempo

While most of the benefits of a tempo workout can be realized in the first 2025 minutes, a long tempo will provide you the physical and mental endurance for longer races. Make sure you're comfortable with shorter distance before attempting this workout.

Depending upon your ability, run 30-45 minutes at your tempo (lactate threshold) pace. This speed is typically what you can maintain for about an hour and is about 85-90\% of your maximum heart rate. It's also referred to as "comfortably hard."

## Long Tempo Intervals

Instead of running a steady tempo, this workout breaks up the faster running into intervals. Use this strategy if you get easily bored or aren't ready for longer periods of faster running.

My favorite examples of this workout are $2 \times 15$ minutes or $3 \times 10$ minutes. Take about a minute of active recovery between each repetition and make sure to warm up and warm down appropriately.

You can also run this workout by distance rather than time. A classic example is $3 \times$ mile at Tempo.

## Short Tempo Intervals

This is the perfect introductory tempo workout and will help you understand what your tempo pace should feel like.

To be as accurate as possible, you can do this on the track. Options include $8 \times 800 m$ or $5 \times 1000 \mathrm{~m}$ at tempo pace. This workout is flexible, so hit the roads or trails to run your tempo intervals based on feel.

Like all tempo's, take about a minute of rest between each interval (there's no need for longer) and it's better to run a little slower than a little faster.

## Tempo + Fartlek

I love combination workouts. This tempo variation includes a shorter tempo of 10-20 minutes and a small amount of fartlek running at a faster pace.

It's a great workout to use at the end of your base phase when you are preparing for faster workouts. You should finish feeling like you could run several more fartlek reps.

My favorite: 15 minute tempo $+4 \times 2$ minutes at about 5-10k pace. Take a minute of jogging recovery after the tempo and 1-2 minutes after each fast effort.

## Tempo Circuit

Part strength work, part tempo, this workout is challenging but fun. You may need some supplies, like a medicine ball or dumbbell, so it's best to do this on the track.

Run a 5-10k tempo, stopping every 8oom to do 30 seconds to 1 minute of strength work. Choose from pushups, planks, haybales, body-weight squats, bridges, or v-ups.

There are countless variations of this workout, from the pace you're running to the core and strength exercises. Have fun with this one.

## Tempo with Surges

A tempo variation that includes 5 k pace running? You bet! Another multi-pace workout, this tempo asks you to run significantly faster multiple times during the tempo portion of the run.

I have done this several times and it's more challenging than you think. I did 6,000m on the track at tempo pace, with the final 200 m of every 1,000m segment at 5k pace.

For me, this was $800 m$ in 2:50 immediately transitioning into a 38 second 200m. Then you repeat 6 times with no rest.
This type of tempo workout is more advanced so don't attempt it unless you're comfortable with a longer, more sustained tempo run.

It also sharpens you so it shouldn't be used during the base phase of training only during the mid-late periods of your training cycle.

## Sprinting 101: Distance Runners Need Speed, Too

"There are a lot of guys out there now who know they are not working as hard as other people. I can't fathom how they think." - Alberto Salazar

I see too many distance runners who never run fast. Running at $95 \%$ of your maximum speed and faster is important to developing into the best runner you can be.

You don't need a lot of it and it doesn't have to be difficult. We need to stop equating "fast" with "hard." As long as the repetitions are short and recovery is adequate, sprinting at maximum speed doesn't have to be hard at all!

A few strategic sprint workouts in your program can make you a faster distance runner by reinforcing proper running form and biomechanics. It helps you develop a more efficient, powerful stride by recruiting more of your fast twitch muscle fibers.

Recruiting more fibers will give you stronger muscles that are less susceptible to injury, better running mechanics, and a strong stress to the central nervous system (improving the communication pathway between your brain and muscles is helpful for stride power, mechanics, and coordination).

## Hill Sprints

Hill sprints are a valuable turnover and injury prevention tool that I think almost every runner should include in their weekly training program.

Start by running 8 second hill sprints and do only 2-3, with your first one at only $95 \%$ of your maximum sprint speed. Take 1-2 minutes of walking between each rep (walking back down the hill is usually sufficient).

Add 1-2 sprints per session until you have reached 6-10 (or whatever you are comfortable with). Then you can increase your sprint time to 10 seconds. If you're ambitious, you can move to 12 seconds.

Recovery is vital with hill sprints, so take the full 1-2 minutes of walking. Don't rush the recovery - these sprints are neither aerobic nor anaerobic. Your goal is simply to recruit as many muscle fibers as possible, so err on the side of too much recovery.

## Read more about hill sprints here.

## Acceleration Strides

These were a staple almost every day when I was in high school and college. After a standard distance run, run 4-8 100m accelerations on a track, field, or your street. Take 30 seconds to a full minute of walking between each one.

Start slow and peak about halfway in at a controlled sprint. Then gradually slow to a stop. These should be fairly easy and will help loosen you up after a run.

## Read more about strides here.

## Distance Run Surges

During the last 1-2 miles of a distance run, run several surges of 20-45 seconds with 30-6o seconds of jogging recovery. Like acceleration strides, these should be controlled and at a fast, but manageable pace.

This mini-workout is a great way to add some faster running to your daily distance run without increasing your total training time. In fact, you may end up running even faster and save some time.

## 4×200m for Turnover

This is a fantastic addition to any track workout that we did frequently in college. Without adding too much difficulty, you can add $4 \times 200 \mathrm{~m}$ to most track workouts.

Use a full 200m jog recovery as slow as you like, but make sure to really work on your speed during the fast efforts. The pace should be mile pace or faster.

To reinforce good running form and improve foot and lower leg strength, change into track spikes or racing flats.

## Barefoot Strides

Barefoot strides are hands-down, my favorite barefoot workout. They deliver more barefoot running benefits than going at a slower pace, have a low risk for injury, and are exceptionally fun.

They are essentially the same as acceleration strides except you do them barefoot. Choose a well manicured field (football, soccer, or baseball outfield at your local high school) or a synthetic turf field. Take 30 seconds to 1 minute of walking recovery between each repetition.

Barefoot strides can be done at the very end of a distance run, or you could stop at a nice field on your way home. If I can't do them at the end of a run, I prefer to do them during the last third of my distance run. Then just put your shoes back on and run home.

## 6x10om Post-Workout

This speed session is similar to the $4 \times 200 \mathrm{~m}$ above, except it's best reserved for after easier workouts. Change into a pair of spikes and run the 100's at close to your maximum sprint speed. You can take 1-2 minutes of walking in between each interval.

This workout will tax you, so cut back on the number of reps until you're comfortable running fast. Recovery is also important; there's no need to rush the time in between. Focus on running relaxed but powerfully.

## Strides Workout

This is an easier sprint workout that builds turnover without being too challenging. Get on the track for the last several miles of a distance run and do an acceleration stride during each straight-away.

The curved sections of the track are your recovery jogs. Each stride should build to about 95-98\% of your maximum speed and then you ease back into your recovery jog pace.

For every mile on the track, you will run 8 strides. Start with one mile and build to 2-3 over a few months. It's critical to run easy on the turns for your recovery, so don't be shy about running very slow!

## Fartlek Workouts: Skip the Track.

"Things in motion sooner catch the eye than what not stirs." - Shakespeare

When you just need a break from the track, an old fashioned speed play workout will do the trick. Instead of a strict track workout based on distance where pace is more important, fartleks are more unstructured.

You can run fartleks on trails to alter the workout based on the terrain and give your legs a break from the roads, but you can easily do them anywhere.

They're also a great transitional workout to harder sessions on the track.
Because you can run slower when you need to without feeling the sting of your watch, they're more forgiving than a classic track workout.

A few examples include:

- 1-minute reps at a hard effort with 2 minutes of easy jogging in between
- Repetitions based on landmarks, like street signs or hills

Remember that Fartleks are speed play so have fun with them!

## Standard Fartlek Workout

A "standard fartlek" is an oxymoron, since a fartlek is unstructured. You can basically do any distance, at any pace, with as much rest as possible.

But there is a common theme to most of my fartleks and the workouts my past coaches prescribed. It's typically a pyramid of short intervals with as much (or as little) rest as you need.

My favorite is a pyramid fartlek of $2^{\prime}, 3^{\prime}, 5,3,2^{\prime}$ where the shorter reps are run a little faster. I like to take 1-2 minutes of recovery, but sometimes I take more.

## Sprint Fartlek

This is a fun workout I like to do on the trails. After a sufficient warm-up, I run a lot of short sprints with a lot of rest. My favorite is $10-20 \times 20$ seconds with 1-2 minutes of recovery.

Because the volume of the reps is high, this workout will take a majority of your distance run. That's OK because the rest is significant. Have fun on the trails and run the terrain if possible.

## Over Distance Fartlek

Similar to a tempo, this workout includes very long intervals run at a similar pace. You can take as much rest as you like and vary the pace throughout.

Each interval should be 10-20 minutes. My favorite is $3 \times 15$ minutes with 2-4 minutes of recovery. Stay comfortable, slow down on any hills, and preferably stay on the trails. With this amount of fast running, you may want to be on a softer surface than the roads.

## Race Course Fartlek

This workout is specific to a road or cross country race. Get on the course of the race that you're preparing for and run a challenging fartlek.

You can get a good feel for the race course with this type of workout. Choose medium length intervals of 3-6 minutes and recovery in the 2 minute range.

This workout allows you to practice running fast on a particular course so you can study the terrain, elevation changes, and turns. Notice where it's easier (and more difficult) to run fast so you can refine your race strategy.

## Destination Fartlek

From your house, find a big loop through your town or neighborhood that passes 3-5 parks or fields. After a warm-up to the first park, run a loop of the area as hard as you want. The recovery is the run to the next field on your loop.

This is a completely unstructured workout and can give you a needed break from the track.

In high school, I knew a runner who did this to four different Mexican restaurants for a Burrito - you can really have fun with this fartlek!

## Tempo + Fartlek

Great for the end of a base period, this is another combination workout. After a short tempo of 10-20 minutes based on your fitness level, run a short fartlek with intervals in the 1-3 minute range.

Take additional recovery time in between each fartlek interval since you will already be in a fatigued state from the tempo run.

You can alter this type of workout to favor either the tempo or the fartlek. I've done a 25 minute tempo with $4 \times 30$ seconds hard afterward, or you can do a 10 minute tempo with a $5 \times 3$ minute fartlek. The options are almost unlimited.
** (Also see Indian Runs (Group Fartlek) in the Group Run section)

## Part IV

## Hills = Strength

"Hills are speedwork in disguise." - Frank Shorter
This fantastic quote by Frank Shorter illustrates that hills can often take the place of interval workouts. They can provide a strong endurance stimulus, be used for injury prevention, and can help prepare you for hilly race courses.

Because uphills require you to work against gravity, there's less impact force with each step so the injury risk is smaller than fast running on flat stretches of road.

No hills near you? Other options include parking garage ramps (be careful!) and bridge overpasses. Many runners that I've coached in flat states like Florida use this strategy with great success.

## Short Hill Reps

This is an introductory hill workout where each rep should be 30-60 seconds in duration. Run each rep at your perceived 5 k effort (the pace will be slower, since you're running uphill) and jog slowly to the bottom for your recovery. If you are new to hills, limit the number of them to 3-4 during your first 2-3 sessions. Every 1-2 weeks, you can add another hill until you reach 6-10 total.

You can also stagger the length of each hill by doing a pyramid hill workout. Try running 30, 45, 60, 45, 30 second hill repeats. The shorter reps can be a little faster than the longer ones if you want to kick the effort level up a notch.

## Long Hill Reps

Longer hill repeats are usually from 90 seconds to 3 minutes. The recovery is much longer since it is the jog back down to the bottom of the hill and the pace is slower.

But don't let that fool you - hills at 90 seconds or longer are grueling. Start with 3-4 hills and build to 6-10 total. Like with shorter hills, you can also stagger the distances.

## Rollercoaster Run

Rollercoaster runs are a great way to add hills to your running without doing a structured workout. About a mile of my running every day is a rollercoaster run, which is just a very hilly section of road or trail.

The key to a successful rollercoaster is to have a very undulating section of your run where you're always running uphill or downhill. Downhills build strength, too, so make sure you include those. And your effort should still be your typical "distance run" pace that's easy to moderate.
If you can't find a hilly area to run, pick one hill and run up one side, down the other, and loop back around to where you started. You can do this several times during a run to do more hills but keep your running easy - this isn't a structured interval workout.

## Uphill Run

An uphill run is...uphill the whole time. It's easier if you live near the mountains because you can find a hill that's miles long.

Otherwise, find the longest hill you can. The grade shouldn't be too steep. You can either finish your run by running uphill or you can run several times up the hill in a loop to simulate the effect (like a Rollercoaster Run).

## Tempo + Hills

This is my favorite combination workout and perfect for the base period of your training. You should shorten both the tempo and the number of hill repeats that you do when you combine them.

My favorite is a 15 minute tempo with four hill reps in the 60-90 second range. You can take as little as two minutes recovery after the tempo or as much as ten minutes. It often depends on how far away the hills are.

The tempo should be run at your lactate threshold pace (10k - 10 mile pace) and err on the side of going too slow to prepare for the hills.
** (also see Hill Sprints in the Sprinting section and Hills + Intervals in the next section)

## Get on the Pain Train: VO2 Max Workouts (and more)

"It's at the borders of pain and suffering that the men are separated from the boys." - Emil Zatopek

VO2 Max workouts are the bread and butter workouts for middle distance runners and are the bulk of hard running in the sharpening phase of any training program. They're also often called simply "intervals," though this definition isn't entirely accurate.

Your sharpening phase is the race-specific phase of your training where you do a lot of running at your goal race pace. Workouts are intense, fast, and very
difficult. They peak your fitness and enable you to give your best effort on race day.

You have to be careful with interval workouts. Because of their very nature, they get you into peak shape quickly. If you do them too often, you'll likely find yourself over-trained, without motivation, and desperately needing recovery.

These types of workouts are typically done on a track where you can closely monitor your running pace. Limit them to 1-2 sessions per week as you enter a $4^{-6}$ week sharpening phase, depending on your goal race distance and fitness level.

You may also find yourself quite sore after interval workouts. You'll be pushing your body faster than normal for longer. Recovery is vital; don't overlook the preventative maintenance you need to stay healthy (for more on injury prevention, see here).

Lace up your spikes and let's get after it.
Interval Miles (classic edition)

This workout was a standard test during my college cross country days and served as a benchmark workout from year to year. We did five mile intervals with 8oom jog recovery. In high school we did the same except with only three repeats.

The point of this workout is to really challenge yourself, so if you are preparing for a 5 k try three repeats at your goal 5 k pace. Increase to five for a 10k and try to run a bit faster than your goal 1ok pace.

In many ways this workout was harder than a race because it took about 45 minutes of intense concentration.

## Oxygen Debt Tempo

This workout isn't for beginners. Start the workout with a good warm-up and then run 8oom-1 mile on the track at a very hard pace, anywhere from 1 mile to 5 k race pace. Take no more than two minutes to recover, then run a 5 k at your typical tempo pace.

Since you're starting your tempo already tired, you'll be forced to recover from early oxygen debt and stay alert when you're fatigued.

## The Michigan Workout

This workout was made famous by legendary coach Ron Warhurst at the University of Michigan. Warm-up well, then run a mile on the track at your goal 1ok pace. To recover, run a mile on the roads or trails near the track.

Continue this pattern so your hard efforts decrease by 400 m every interval. They'll be: 1 mile, $1200 \mathrm{~m}, 800 \mathrm{~m}$ (all at 10k pace). Then end the workout with an all-out 400 m to simulate a finishing kick.

The Michigan workout is difficult because of its length and the final 400 m sprint. Don't run the first few repeats too fast or you won't be able to close strong.

## Interval 400's and 80o's

What miler or $5^{k}$ k runner doesn't run 400's and 80o's on the track? A classic staple for the mid-distance runner, these intervals are geared to get you raceready and prepared for speed.

Depending on your fitness level, start with 4-8 reps. You can do all the same length repetitions, or mix and match for a pyramid workout - like 400, 400, 800, 400, 400 .

This workout targets your ability to continue running fast while already in oxygen debt. You want to be rested, but not fully rested, so limit your active recovery (in other words, easy running) to 1-3 minutes.

## 5k Simulation

This workout is typically reserved for the sharpening phase of a 5 k program and is a great indicator of your 5 k -specific fitness. It will probably be almost as difficult as the race itself.

After a thorough warm-up, run $5 \times 1000$ on the track at your goal 5 k pace with $200-400 \mathrm{~m}$ of easy running in between. If you start at 400 m for recovery, then you can reduce it to 200 m after 2-3 weeks.

Another option is to run $3 \times$ mile at goal 5 k pace with 200-400m jog recovery.
And if you can hit your pace on each one, then you're ready to run fast.

## Catch the Rabbit

This is a really fun workout and adds a neat twist to fast running. On an 8oom 1 mile loop, have one runner start 20-45 seconds before you (or your group). They're supposed to run hard, but not too fast, and your job is to catch them.

This type of repetition is usually only done once and saved for the last rep of a workout to practice running hard when you're tired and to simulate the end of a race when you need to catch your competitors.

I did this in high school with our coach being the rabbit. We had a blast catching him and it took us an entire 1000 m loop to make up 150 meters!

## Pyramid Workout

This is another track classic and can be used as another multi-pace workout to prepare you for multiple types of races. Use distances from $400 \mathrm{~m}-1$ mile in length and create a pyramid structure. My favorite is $400,800,1200$, mile, 1200, 800, 400.

The 400's are run at mile pace, the 800's and 1200's are run at 5k pace, and the 1200 m is at 10k pace. Take 400 meters of recovery after every interval.

You can alter this workout in an almost unlimited number of ways to suit your goals and your fitness level. Get creative.

## Descending Ladder

Descending ladder track workouts are like pyramid workouts, except you start at the top and work your way down. In these workouts, start with longer reps at a slower pace and gradually speed up as you work on your speed.

If you are preparing for a fast 5 k , start with 1 mile at your 1ok pace, then do $2 \times 800 m$ at 5 k pace, $2 \times 400$ at your mile pace, and $2 \times 200$ at a controlled sprint.

These types of difficult workouts will sharpen you quickly, so don't do them in your base phase or more than 6 weeks out from your goal race.

Ascending Ladder

An ascending ladder workout is also like a pyramid workout, except that you stop when you reach the top. By doing faster intervals at the very beginning, you start in a fatigued and oxygen deprived state.

You don't want to start a workout like this by running 200 m intervals at a controlled sprint. Instead, run 400 m at your mile pace. It's more manageable and will allow you to still finish the entire workout.

An ascending ladder workout example is $400,800,1000,1200$, Mile at mile -5 k pace. You can take 200 meters of active recovery after the first 400 m interval, but then bump that up to 400 m .

## Multi-Pace Intervals

Multi-pace intervals are a fun way to spice up a typical track workout where you stick to one pace the entire time. Instead, you can alternate with 2 or more paces.

Choose an interval distance (l like 80o's) and the paces that you want to run. If you're training for a 10k, you should include paces from 10 mile race pace down to mile race pace.

An example workout would be $6 \times 800 m$ with 400 m jog recovery. Alternate the following paces for the intervals: half-marathon, $5 \mathrm{k}, 10 \mathrm{k}, 5 \mathrm{k}, 10 \mathrm{k}$, mile (or as close as you can get).

## 30-40 Pre Workout

Made famous by legendary University of Oregon runner Steve Prefontaine, this workout alternates fast 200's with slow(er) 200's on the track. In Pre's case, he alternated 30 second 200 's with 40 second 200 's for a 70 second lap on the track.

I don't recommend doing an elite athlete's workout, but you can adjust this to fit your goals. Pick two 200 m times that are 10-15 seconds apart and alternate 200's on the track for 1-3 miles.

Very competitive runners can use 35 and 45 seconds while others may want to do 50 and 65 seconds for each 200m. Experiment with the times to find what works for you.

This workout will be hard, but it builds a lot of strength and prepares you for pace changes during a race. Remember that there's no rest between each 200m - they're all in a row!

## Hills + Intervals

This is easily my least favorite combination workout simply because it is so challenging. Hills build tremendous strength, but they sap the speed and turnover from your legs.

That's why this workout is so hard. Start by doing 4-6 hill repeats between 3090 seconds. Then get on the track and run 4-6 shorter intervals to work on your turnover.

My (least) favorite combo workout is $4 \times 60$ " hills and then $4 \times 400 m$ on the track. The 400's are done at your mile race pace or faster with a 200-400m jog recovery.

## Drill Circuit

This workout can be done on a track or a park loop. For 3-6 miles of total workout volume, you alternate hard running with drills. Try this:

- 400 meters at tempo pace
- 100 meters of skipping / a-skip / b-skip / high knees / butt-kicks
- 100 meter acceleration stride
- 200 meters at 5 k pace
- Repeat

This workout is fun, but it includes sections of very fast running that will challenge you. You'll find your form deteriorating on the acceleration stride and the drills, so stay focused.

## Fun Runs, With or Without a Group

"All work and no play makes Jack a dull boy." - Proverb

You can't train seriously every day of the year. Even elite athletes take extended periods off from running or hack around doing fun workouts.
When you just can't bring yourself to get on the track or you need a break from the structure of an interval, hill, or tempo workout then try something fun.

These workouts are less structured, based more on "feel" and some don't even include any fast running. They are meant to rejuvenate your body, stimulate your mind, and give your body a break from the rigors of serious training.

You're going to need a partner for most of these workouts. Running with a group, especially when you're not being competitive, is a fun way to enjoy your training and add a much-needed social element to running.

Enjoy yourself. Smile. Have some fun.

## Barefoot Running

Yes, barefoot running is a workout! It's challenging and works all of the small muscles in your feet and lower legs that have atrophied through years of shod running.

If you're new to running without shoes, start with 1-2 minutes on a soft surface like an artificial turf field, grass, or golf course. Keep the pace easy and take the next 2-3 days off from running barefoot.

Gradually increase the time you're running barefoot until you can run about a mile. Most of the strength benefits of barefoot running can be realized in a mile run per week (or two half-mile runs).

## Indian Run (Group Fartlek)

This workout is best done with at least five people. In a single file line, the last runner in the group has to catch up to the front of the pack. She then becomes the leader and can run as fast or slow as she wants to.

Different paces are encouraged to vary the workout and keep things interesting. The other runners don't know how fast the leader will run so the element of surprise is constant.

You can also run this workout on a hilly course to "run the terrain" and make sure everyone is paying attention. Find a local track club, group of friends, or round up your old running buddies and hit the roads.

## Dice Workout

Preferably run on a track, the Dice Workout is a fun way to break up a hard day and is usually reserved for when you are not in a race-specific training period. For this type of workout, 600-1000m intervals work best. Before each rep, roll a die - each number corresponds to a pace pattern that you'll run for the entire rep. The paces aren't exact, rather it's the effort that counts.

For example:

- 1 = alternate easy / medium / hard every 100 meters
- 2 = alternate easy / hard every 200 meters
- 3 = run the whole interval at a medium effort
- 4 = run the whole interval at a hard effort
- 5 = alternate medium / hard every 100 meters
- 6 = alternate easy / medium every 100 meters


## Pace Perfect

This is a fun workout that develops your intuitive sense of pacing. It's not to be run fast. Instead, go your normal distance run pace.

Pick a loop that's between 1-2 miles. You're going to time the first loop on your watch and note the time. Run another 3-5 loops and use your watch's split feature to keep track of every loop's split time.

But the key here is not to look at your watch after the first lap. Try to run the same exact pace for every single loop, while splitting your watch to keep a record of your actual times.

You're only allowed to look at your watch when you finish. How close were you to running an even pace?

## Warm-Down

Every runner has a few workouts that they like to do. I hope this guide has given you a few new ideas to work with.

Running is experimentation. Explore. Get Lost. Have fun.

## Now What?

Go out and try a new workout!
My \#1 goal is to help runners become better runners - whether that's a new personal best, weight loss, more consistency, and fewer injuries.

I'd love to help you accomplish YOUR running goals.
You can get my free email course on becoming a better runner, that shows you new ways to run so you can get faster, stay healthy, and be the runner that you know you can be.

I hope to see you there!

Thank you so much for reading! Please let me know what you think of this guide by shooting me a tweet on Twitter - I'm @JasonFitzı.

Cheers,

- Jason.


## Bonus! My 2:39 Marathon Workouts

In 2011, I raced the Philadelphia Marathon and finished 42 nd in a time of 2:39:32, a PR of over 5 minutes.

I never hit the wall, barely slowed down at all during the last 6.2 miles, and felt strong from start to finish. The Philly Marathon is my crowning achievement in my 13+ years as a distance runner.

To provide perspective on what it takes to run a personal best at this level, I want to share the progression of long runs that enabled me to run this time, plus monthly mileage levels and key workouts during my training.

The bulk of my specific training for Philadelphia occurred over 12 weeks before the race, not including a 2 -week taper before the race.

## Long Run Progression:

Week 1: 18 miles in 2:03:50
Week 2:18 miles in 2:05
Week 3: 19 miles in 2:12
Week 4: 19 miles in 2:12
Week 5: 20 miles in 2:21
Week 6: 17 miles in 2:00 (hip flexor soreness - reduced mileage)
Week 7: 18 miles in 2:10 (hip flexor soreness - reduced mileage)
Week 8: 21 miles in 2:27, last 3 miles at a moderate effort
Week 9: 21 miles in 2:23, miles 15-18 in 23:33 on the track
Week 10: 18 miles (half marathon race in $75: 07$ )
Week 11: 22 miles in 2:29, last 5 miles on the track in 29:27
Week 12: 22 miles in 2:24:43. $3 \times 3$-miles during the second half of the run in 18:48, 18:05, and 17:46 with 1-mile recovery jog in between

## Mileage \& Workouts

Overall monthly mileage for the three months before Philadelphia was:

- August: 311
- September: 342
- October: 345

Key workouts were mainly long tempo and marathon-pace runs, including MPpaced 8 km workouts on the track during weekday 15-milers in 29:20-29:40.

Tempo runs were 30-40 minutes in duration and usually on a trail loop in Rock Creek Park in Washington, DC. Average pace was typically around 5:40 per mile.

