

# Workouts

## **T= Threshold**

Continuous aerobic threshold running. Relaxed hard runs. Find the red line of your aerobic threshold and tickle it. Should never die until the very end, but if you do die early then workout is over. Pace should never be the hard part, it should be the distance and lack of recovery that makes it tough. The runner should workout their way up to their red line of the aerobic threshold and work under it. This helps them identify what their threshold is, where it is, how to find it and know their limits. Long repeats w/ short rest. Should be the fastest you can go, while feeling like you could run that pace for a longer time if needed. Never slow down, just hold the pace current pace or pick it up. If you slow down you are doing it wrong and are doing the workout for too long. Culminate each session with a slow/prolonged build-up to an all-out kick. Or end the workout with strides or lactic tickles up a hill (40-60m all out till you feel the burn— walk down).

### Examples:

Progression run

20-50min tempo runs

Out and back pick ups

Blend Progression- On and offs/ins and outs, up and down hills sprint loops

Fartlek— with long intervals and Long rest

Mile, 2K or 2Mile repeats, solid (slower than race pace, but more of them) w/ short rest

## **AR= Aerobic Repeats**

Race pace repeats with medium or descending rest. Should feel tough, but runner should not die until the very end of workout, if at all. Workout needs to be a higher volume of quality repeats at aerobic threshold, but based off recent performance times. Pace should feel relatively easy, but the amount of repeats should be the hardest part. Goal repeat times should be based off of Daniels' charts (calls it "Threshold" pace) or McMillan's calculator (calls it "Cruise" pace). Working at or under this threshold will push the line up. Working over it for long amounts of time will push the threshold line down. End each session with something fast, or end with a short all out distance (like a 200 or 400) for muscle memory; leg turnover with heavy legs. Teach body/mind to fight and kick.

Examples:

600-800-1K-Mile repeats, with medium or descending rest.

Fartlek— Long intervals with shorter rest

### **AT= Anaerobic Threshold**

Better term is “Lactic Threshold,” teaching the body to dissolve high amounts of lactate, quickly and more efficiently. Fast pace, with lots of rest. Pace should be the hardest part, but not faster than goal time. Effect can be accomplished 1 of 2 ways: 1) Fast pace with lots of rest or 2) mild-pace with short rest. Adjust rest as necessary to desired effect . Goal times should be based off of Daniels’ charts (calls it “Interval” pace) or from McMillan’s calculator (calls it “Speed” pace). Feel free to spike up.

Examples:

300-400-600-800-1K repeats with ample rest

Blends— Short/Fast followed by Longer/Steady as rest, to work to dissolve lactate at a slower (but still fast) pace

Ladder workouts

Michigan Workout

### **AN= Anaerobic Repeats**

Fast, almost all-out sprints, don’t hold back type of pace. Runner needs to focus on running fast, while being as comfortable and as efficient (mechanically) as possible. Running fast, but feeling like it is easy. Feel good. Shorter distances, with lots of rest. Not for development purposes, but for tweaking, tuning, sharpening and peaking. When it hurts, it needs to be from pace, not by repetition amount of lack of rest. Goal times can be, but don’t have to, based off of Daniels’ charts (calls it “Rep” pace) or from McMillan’s calculator (calls it “Sprint” pace).Should spike up for these workouts.

Examples:

150’s, 200-300 with lots of walk/stretch recovery— enough repeats to hurt, but still feel sharp. No dying

All-out 100-300m hill sprints, lots of recovery

# Recovery Runs

## **E= Easy Run**

They are called “easy” for a reason. Point of easy runs are to serve two purposes; 1) recruit slow twitch endurance muscle fibers, while developing aerobic capacity and running cardio/biomechanical efficiency as much as possible (which happens best at a pace 30sec-2min per mile slower than aerobic threshold stimulation) and 2) recovery fully from previous workout and recovery fully before next workout (slower the running, the more recover benefit). Improvements do not happen on the hard days of ripping muscles or pushing the threshold line, the improvement to your fitness/systems happen during the recovery from those hard days. The more rested a runner is before a hard workout, the more their body will be able to get out of the workout. Any run that is not fast enough to stimulate the aerobic threshold, but yet too fast to fully recover from is simple junk miles— No man’s land. Those kinds of runs serve no purpose while in a demanding workout phase/program (besides some mental benefit, so a runner cannot be insecure with oneself). A slower pace also allows a runner to run for a longer period of time, which is of greater benefit to your aerobic development (where time on your feet is most important, not pace or distance since the improvements come from the actual act of running). A slower recover run and more a more rested running doing a workout reduces the risk of running/overuse injury.

## **LR= Long Runs**

Long runs can serve as an additional weekly workout. When in a runner is in shape, the energy system that a long run taps into/develops does not require the same recover after as some of the threshold based workouts. A long run can still serve as recovery time for the other workouts (though not as effective, especially when preceded by multiple days of harder workouts). Long runs should be added in with caution. Mileage should be spread out over the week amply, rather than jammed into one session. However, the endurance a fat store system that running for longer the 90min (at any pace) develops cannot be done easily any other way, and is an important supplement with other phases of training to increase stimulation and prolong the diminishing returns of a particular phase of training. Longs runs can be a faster than normal recover pace (by as much as 1 minute per mile), or done as a slow-grated progression run, when the last 20-30minutes of a 90-2hour run are done at a faster pace than the previous 75-90 minutes. When done right, long runs should have a completely different feeling than the other workouts. However, when not is full shape/not fully acclimated to current stimulus of training, long runs can increase risk of injury— especially when run too fast.

**P= Pre Meet**

Can still serve the purpose of an easy run, however when before a performance, mental rest and muscle tension for better feel should be taken into consideration. A small dip in mileage should be adhered to when compared to an easy run, but strides/ all-out SMOOTH 80-150m sprints, focusing on form should be done both stretching to tune muscle tension in leg muscles.



## Four Phase Plan

1) **General Development:** ~4-6 weeks in length

Comprised of T and AR workouts

Goal: Identify personal aerobic threshold line, work to improve it and get in good aerobic shape

2) **Shifting Gears:** ~3-4 weeks in length

Comprised of T and AT workouts

Goal: Continue identifying aerobic threshold, while beginning to develop/stimulate lactate threshold. Improve performances.

3) **Race Specific:** ~3-4 weeks in length

Comprised of AT and AR workouts

Goal: Work to develop aerobic and lactate threshold while improving performances

4) **Tweaking and Peaking:** > 3 weeks or until end of season

Comprised of favorite AR/T workouts and 1 AN workout a week

Goal: Be smooth in fun/fast workouts. Mentally prepare with comfortable fast-twitch stimulation. Not developmentally focused.

## Week setup:

### **Back-to-back workouts** (Tuesday-Wednesday) and **back-to-back easy days** (Thursday-Friday)

The idea behind doing back-to-back workouts is that the aerobic thresholds and the lactate thresholds in a runner can be trained mutually exclusive when doing specific isolated workouts. Also, taking into consideration that in Daniels' research he found that it takes longer than 48 hours to recover from a hard workout, but until the rest is effectively stimulated (longer than 24 hours) than further development can still occur. So with this said, a runner can train one threshold and then train another within 24 hours, then take ample rest and still get the most out of the work already done. Once recovery is stimulated, it takes longer than 48 hours to completely be recovered, so it takes back-to-back easy days to get the most from the work already done and for a runner to be ready for the future work. This not only creates a tougher mindset in a runner, but allows athletes to develop the rhythm of comfortable, beneficial training (especially while in season/racing). It also allows 2 rest days prior to a race, which otherwise would be in the 24-48 window after a workout that sabotages recovery/development, which can create varying performances.