



TIP #3 - UNDERSTANDING THE LINGO: MAKING SENSE OF LACTATE THRESHOLD WORKOUTS (STEADY STATE RUNS, TEMPO RUNS, TEMPO INTERVALS AND CRUISE INTERVALS)

We are all aware that long runs are a staple of half and full marathon training success. Lactate Threshold training is also a key ingredient and will stimulate the physiological changes to enable you to build stamina, run faster, and feel more comfortable at your half or full marathon pace. You will notice these variations are incorporated into your training schedule. Lactate Threshold training is accomplished via Steady State Runs (SS), Tempo Runs (T), Tempo Intervals (TI) and “Cruise” Intervals (CI).

Steady State Runs are performed at half marathon to 30k race pace, and are incorporated into meso-cycle II of our semi-elite marathon training program. These are the longest duration runs falling within the stamina building or lactate threshold family and range from 25 minutes to 1 hour and 15 minutes. Due to their duration, steady state runs are challenging workouts. Shorter steady state runs (25 – 45 min) should be run closer to half marathon pace and longer steady state runs (45 min to 1:15) closer to 30k. In order to maintain a steady rhythm, it is recommended that steady state runs are done in mild weather conditions on flat even terrain; the goal is to maintain an even intensity of effort for a long period of time. Hills, uneven footing and poor weather conditions all interfere. A steady state run should be sandwiched between a good warm up and a cool down.

Tempo Runs are steady runs performed at 10 mile pace that last 20 minutes or more, and are slightly faster, but shorter in duration to steady state runs. You should be able to maintain this pace for up to an hour in a race. Like steady state runs it is recommended that tempo runs are done in mild weather conditions on flat even terrain and should be sandwiched between a good warm up and a cool down. Because they involve running at lactate threshold pace for a longer, concentrated period of time, tempo runs are a better use of training time than lactate threshold runs.

Tempo Intervals or “Cruise” Intervals are repeated lactate threshold runs that last anywhere from 3 – 15 minutes and are broken up by short recovery periods. The brief recovery periods, which usually last about a minute for shorter Cruise Intervals (1 mile and less) and about 2-3 minutes for longer Tempo Intervals (1-2 miles), allow blood lactate levels to remain fairly constant and extend the training session longer than a tempo run. Lactate threshold intervals can be anywhere from 800 meters to 2 miles in length and should also be sandwiched between a warm-up and cool down. The advantage of lactate threshold intervals is that they provide a break from the demands of the longer tempo run while still allowing an opportunity to benefit from a full lactate threshold session. They are easier to do. Like tempo runs, these should be done on a flat, even surface in mild weather conditions.

How fast should you run your lactate threshold runs? You can obtain a personalized report using **Greg McMillan’s** running calculator. All you need is a recent race time, and the tool will automatically make the calculations. It provides not only Steady State (SS), Tempo (T), Tempo

Interval (TI) and Cruise Interval (CI) training paces, but also your VO2 Max (for those following high intensity schedules), Easy Long Run (E), Recovery Run and Race Time Predictions for all the most commonly raced distances. To use the [Greg McMillan Running Calculator](#) simply input a recent time for any “best effort” race distance and it will provide a personal calculation of your training paces as well as predicted race times.

Reference: Pfitzinger, P., and S. Douglas. 1999. *Road Racing for Serious Runners*. Champaign, IL: Human Kinetics.

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