

What's Your Threshold?

Do you get slower and slower during a 10k, half marathon or marathon race? If so, then chances are you're running above your lactate threshold.

What is it?

Lactate threshold, or **LT** is the intensity of exercise above which lactate - a by-product of exercise - starts to flood the system. In practical terms, it represents the upper limit of sustained faster paced running.

You can run for 45 to 60 minutes at your LT pace.

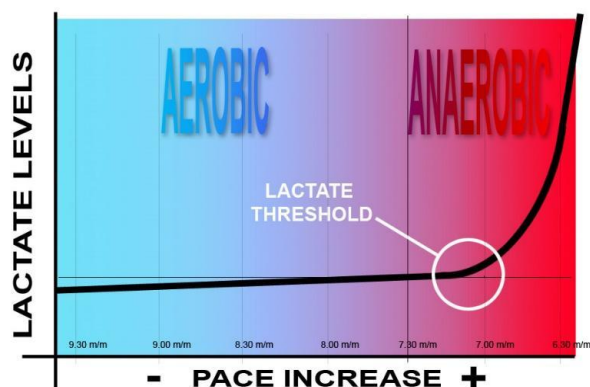
Why should I care about it?

Because your **LT** is the **single most important determinant of distance running success**. So, by finding yours, you can train smarter and race faster.

Here's what you need to know

Running at an easy-intensity, or **aerobically**, the body has enough oxygen to power its muscles, and lactate production is reconverted back into energy.

Running at a moderate to hard-intensity, or **anaerobically**, the body has insufficient oxygen to power its muscles and cannot deal with increased lactate production. The result is lactate accumulation - reducing muscle power and running pace.



See the graph: the thick black line represents lactate levels as pace is constantly increased. Notice how levels shoot up at a certain intensity of exercise. This represents the lactate threshold. The pace at which this occurs is different for every runner and their current

fitness level, so it may be 6.30 minutes per mile pace for a good club runner or 10.30 minutes per mile for a newer runner.

Find your LT pace

Here are two practical ways to find your LT pace:

Perception –note your pace when running feels 'comfortably hard' or 'brisk, but manageable' and you can only speak in short sentences.

Recent race times –runners who complete a 10k in 60 mins, their LT is the same as their 10k pace. Runners who complete a 10k in 50 mins, their LT would be their 10k pace plus roughly 10 seconds per mile, and so on.

Target your LT

The aim of focussed LT training is to shift the curve in the graph further to the right, delaying lactate accumulation until a faster pace is reached, resulting in you being able to maintain a faster pace for longer.

Sports science tells us that to improve a physiological function in your body, you must stress that function, so by running **at** or **just below** your lactate threshold pace, you're providing the best stimulus for your body to improve its lactate clearance abilities.

How to do a LT session

Weekly LT sessions (or tempo runs) are classed as 'moderate to hard' and are appropriate for runners who have already developed good aerobic fitness.

A typical session would be a 2-mile **easy** warm up followed by 1 to 4 miles at **LT pace** and finishing with 2-miles **easy** cool down. It's good practice to progress the distance you run at LT pace over a few weeks.

Be warned - it's easy to run these too fast! If your warm-up is too fast, you're likely to increase your pace going into the LT section and run that too fast, which means you won't be able to sustain the pace and the benefit of the session will be lost.

Somewhere flat for an LT session is ideal, like a running track or 1-mile flat section of footpath to loop around, so you can lock into and maintain a specific pace.

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