

## Reach your running breakthrough – 4 ways to improve your performance.....

The human species are born with the natural gift of being able to run, in each of our DNA, even in the most sedentary there is an inbuilt ability to be able to run. Despite the ancient fact that as species we can run, the gift of modern science can now show us how to run faster, longer and more efficiently. Sport scientists generally agree that there are 4 ways to improve running performance.

1. **Increase your Max VO<sub>2</sub> (maximum oxygen uptake)**
2. **Improve your endurance or running economy**
3. **Extend the period of your lactate threshold (the point at which your muscle efficiency falls off significantly).**
4. **Improve your running technique – biomechanics, foot strike, shoulder/facial relaxation**

Many runners find they enjoy a good daily run and settle into a comfortable pace that feels good. On the other hand some athletes push every run with the mentality 'no pain, no gain'. In both cases each runner would find they may be doing the running but not achieving effective results.

So ask yourself – are you reaching your running best?

**The most effective running training** looks at a varied and structured running plan that covers specific elements tailored to their chosen field – sprinting, middle distance, long distance or ultra distance. Training that isn't specific will produce results but it certainly won't produce the best and most efficient performance. Without a proper running plan you are setting yourself up to under train or overtrain or lack the progression necessary to achieve peak performance.

**VO<sub>2</sub> Max- Your maximum oxygen uptake** is the greatest volume of oxygen your muscles can use while exercising as hard as you can.

**NOTE:** It's NOT just the amount you lungs and heart can provide but the efficiency at which your muscles burn the available oxygen. Your max VO<sub>2</sub> can be different for various sports – a trained runner for instance may be able to run very fast for a long period of time but put that same runner in a pool and he may lack the strength, efficiency and specific oxygen uptake required for swimming. The swimmer may be able to swim laps upon laps but lack the ability to run a hard and sustained 5km. Both athletes would have great cardiovascular systems but it's not all about the cardiovascular system remember it is the efficiency at which the muscles burn the available oxygen. **The key is in the specificity of training – an athletes cardiovascular system as well as the muscular specificity.**

**The best pace to improve your Max Vo<sub>2</sub>?? – the answer is your Max Vo<sub>2</sub> is the best pace to improve your Max Vo<sub>2</sub>!!**



Keep in mind your Max is not an all out sprint its a pace you could hold for about 12 minutes. When training it's not necessary to go out a run a daily Max Vo2 run either – you will only exhaust your body and lead to overtraining and injury. Training at your MaxVO2 is not slow running or all out sprinting, it's controlled speed at a pace that is aimed at your current racing performance

**If your 10K race pace is 38 minutes your Max Vo2 pace is approx 3:33 per minute km.**

Your lactate threshold pace is approx 4:04 (min/km) and your running economy pace is approx 5:03 (min/km).

Again, training at your Max Vo2 can be done for a few minutes at a time during a run building up accordingly, building up in cycles is important to creating a peak performance for the upcoming event. The type of intervals would be 4 to 8 reps of 3 to 5 minutes duration with 2 to 3 minute rest/recovery (2:1 ratio), or even shorter 30 sec to 120 sec intervals but with shorter rests of 10-60 seconds and a higher number of intervals from 4 – 12. Adaptation without exhaustion is the foundation for many good training programs. Once your racing times improve the Max V02 training can increase accordingly.

**In training** – your training regime should include a max VO2 workout about once a week within a proper periodised training plan.

**Off season**- not necessary to do Max Vo2 workouts

Stop following a hit and miss training plan and gets results by training according to your Max V02 and lactate threshold levels, the quickest and smartest to improve your running efficiency. Train smart and your running breakthrough will automatically happen.

Upcoming tips for lactate threshold training will follow in another addition of SportsVibe.

To have a chat to a Breakthrough sport performance coach about your running efficiency or training program please e-mail – [team@breakthroughsports.net.au](mailto:team@breakthroughsports.net.au) .