What is VO2max and why is it important to you as a runner?

If you want a fast car you go for one with a pretty large engine, right? It’s the same if you want to run a fast marathon, you need to make sure that your body has a large engine.

The term VO2max has now extended beyond the Physiology lab and is now talked about at running clubs and gyms across the country. If you are anything like me, it might even be brought up in conversation across the dinner table. There are heart rate monitors and apps available that claim to be able to tell you what your VO2max actually is. So when you are given this number, what does it mean and how can it help you?

The scientific definition of VO2max is the Maximum amount of Oxygen that your body can utilize. Or put another way, it’s the size of your engine. It is measured in milliliters of oxygen per minute per kilogram of body weight (ml/min/kg). To have your VO2max level measured accurately, it is done by measuring the amount of Oxygen and Carbon dioxide being inhaled and exhaled by your body. It can be done at a sub maximal exercise level, such as taking you to 85% of your maximum, and then extrapolate the graph to 100%. Or for improved accuracy, and in my cruel opinion, more fun, taking you to 100% of your maximum, if you can handle the intensity and hard work! So when you are given a number from your heart rate monitor, GPS watch or mobile app, I wouldn’t say ignore it but take it with a pinch of salt.

Most people will have a VO2max of about 30-60ml/min/kg. Somebody who is typically very sedentary and does virtually no exercise could be as low as less than 20. World class athletes tend to have a VO2max of around 80ml/min/kg. In fact, you can almost predict some ones marathon time based on their VO2max. So generally speaking, the higher your VO2max, the better. It means that your body can take in more oxygen and deliver it to your muscles during exercise.

There are many studies published looking at the most effective way to improve your VO2max. Some report that running long distances will do the job, others conclude that running fast intervals is the best route forward. There is also some great evidence to say that running at your 3k race pace, or the fastest speed that you can maintain for approximately 8-9 minutes, is a very effective way to improve VO2max. Working out this speed and then running reps of anything between 2-5 minutes each, should allow you remain more than competitive with yourself and your rivals. It might even see some new PB’s in 2016.

However, this also comes with a small word of caution. VO2max is not the be all and end all. Once you have your large engine, you want it to be economic to get you through the distance and past the finish line. So how do you have a large engine and maintain a good fuel economy? Stay tuned to further editions of this magazine to find out.





