Five ways to boost aerobic endurance

Triathlon training and racing lasts more than a minute – several hours if you're going long – which makes you an 'aerobic athlete'. This means oxygen (O2) is a vital addition to existing fuel sources stashed around your body to help the process of movement.

While a VO2 test will accurately measure the maximum volume of oxygen that can be used by your body, there are many things you can do as an aerobic athlete to maximise your oxygen-processing system. Be careful with the intensity, though, just do two a week, maximum and allow for recovery.

Lose weight

Never forget that you, the athlete, are the biggest piece of kit you'll be carrying on race day. If fat loss is possible, and necessary, this will conserve considerable oxygen use across all sports, especially on a hilly bike course.

Less mass means run sections of triathlons will be faster (see issue 295's 'Build Strength, Get Lean, Race Faster' feature for more on the benefits of running lean), hence the quickest and most economical runners are light, usually with a BMI of less than 20 for females and less than 21 for males.

But you can still find that tweaks to every single piece of equipment you use on race day will help conserve your energy (it's just more expensive than getting lean by eating less). From modern, low water-retention wetsuits to lightweight aero helmets, it's possible to trim weight if you weigh products and compare them to other items on the market.

Base building plus

To be more oxygen efficient you need to do many, many hours of training. Despite the trend in gyms to cram a quart into a pint pot, efficient triathletes are born out of many hours of weekly training. My guesstimate is an age-grouper at the front 25% of their field needs to do 300-600hrs per annum, not three, one-hour 'mega-xtrain-super-intense' classes a week.

But one sneaky way to produce a better training effect with the same amount of hours may be to train with low glycogen levels, by doing a double-session day without trying to store significant glycogen in between the two sessions.

Hill efforts for better economy

The reason running hills is so hard is partly due to lactic-production recycling and/or tolerance to high lactate levels, coupled with better movement patterns born out of exaggerated work against gravity.

Running hills works, but there's a small timescale in which to drop 2-5% off your 5km time, so time it right: do your last hard, interval session a week before your race; three days to go, do a moderately hard session including 4 x 4min efforts from upper Z1 to just below threshold, followed by 4-5, 1min efforts.

Bike high-intensity training (HIT) efforts

Pushing the system hard can raise your VO2 and improve the efficiency of lactate recycling when racing. Intervals can improve cycling economy, time-trial ability and therefore boost your triathlon cycling performance from T1 to T2. They're also time efficient, weather independent and very purposeful.

Oxygen boosters

It's possible to tweak your diet or supplement intake and boost oxygen levels for training and racing. Foods high in nitrates can make for more economical muscle movement and top-end improvements in speed. For example, roasted beetroot (pictured), spinach, rocket, celery, cress and chervil, to name but a few, all help to increase your blood nitrate level. But beetroot is the only research-proven method, so is a good choice to add to your diet. Supplementing sodium phosphate has also been shown to increase VO2max and increase performance.

(Images: Jonny Gawler)

For lots more advice on how to improve your performance head to our Training section