EVERY BREATH YOU TAKE

Over the past decade, a quiet revolution has taken place in sports training. Once viewed with scepticism, breathing muscle training is now seen as one of the 'quickest and easiest' routes to improved performance. **Professor Alison McConnell**, the author of *Breathe Strong, Perform Better*, explains why a little heavy breathing is just what the doctor ordered

About the author

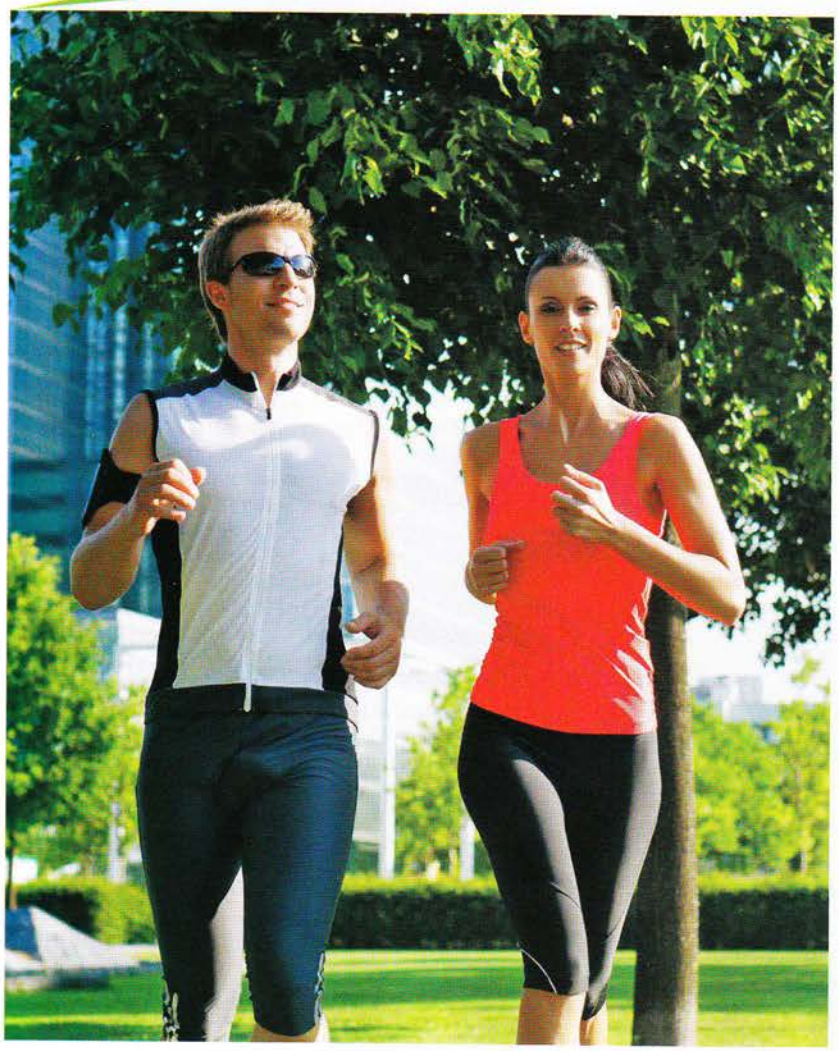
PROFESSOR ALISON McCONNELL

Alison is the world's leading expert on breathing muscle training, and author of *Breathe Strong, Perform Better*, a comprehensive guide to breathing training. Alison is also the creator of the POWERbreathe® range of breathing muscle trainers. She holds a BSc from the University of Birmingham (UK), and Masters and PhD degrees from the University of London (UK). Alison is Professor of Applied Physiology at Brunel University in London, and is a Fellow of both the American College of Sports Medicine and the British Association of Sport and Exercise Sciences.

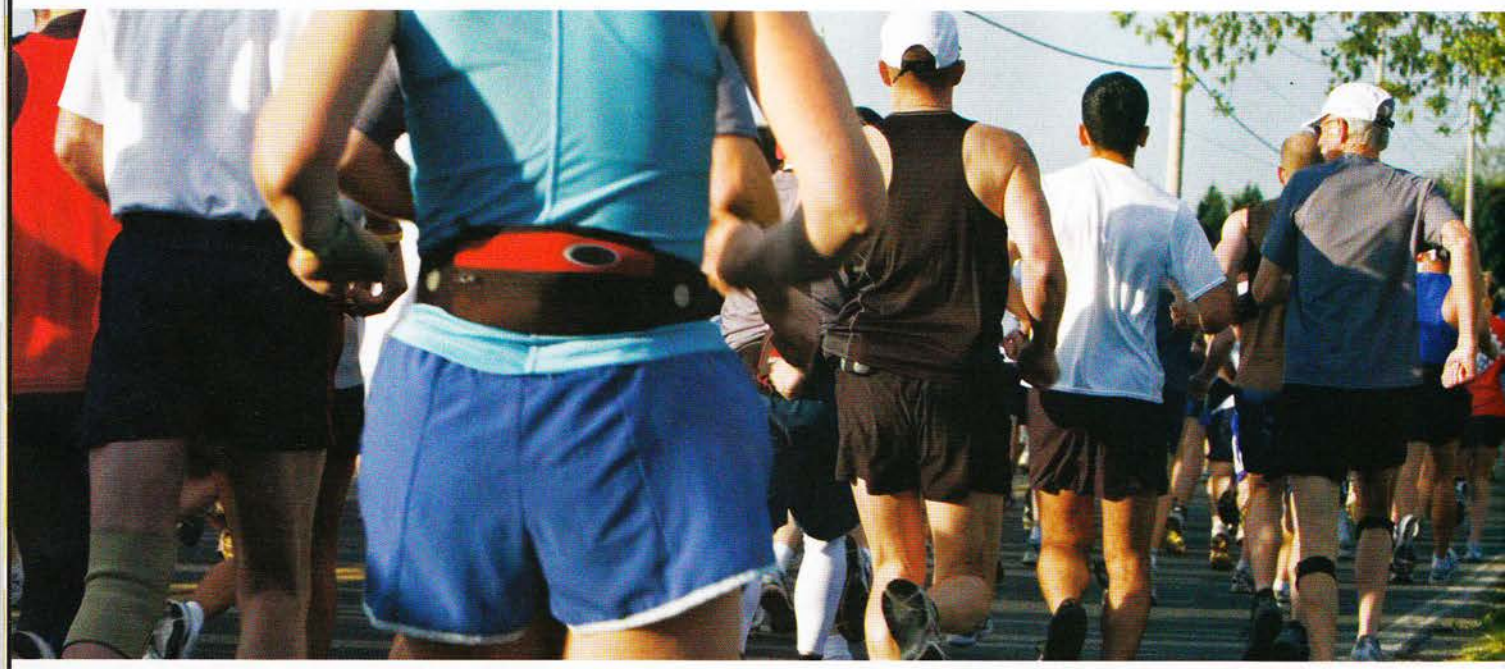
It sounds too good to be true – a minute off your 10k time with nothing more than five minutes per day of additional training. But published research has shown repeatedly that specific breathing muscle training improves sports performance, and in as little as four weeks. What's more, there's no need to even break a sweat.

Knowing this, it's no surprise that elite sport was quick to take advantage of breathing training, especially in the UK, where it was developed. One of Britain's greatest Olympians, oarsman and quadruple gold medallist Sir Matthew Pinsent, has said of breathing training: "Advances in sport science knowledge are few and far between, but numbered amongst these rarities is the discovery that breathing has such a profound influence upon performance that it merits specific training".

So why haven't you heard about it? Precisely because it seems too good to be true, and because runners are rightly wary of the claims made by those whose products promise much, but deliver little. But breathing training really is different; it's backed by high-quality published research that withstands the scrutiny of even the most cynical coach. Appetite whetted? Then read on.



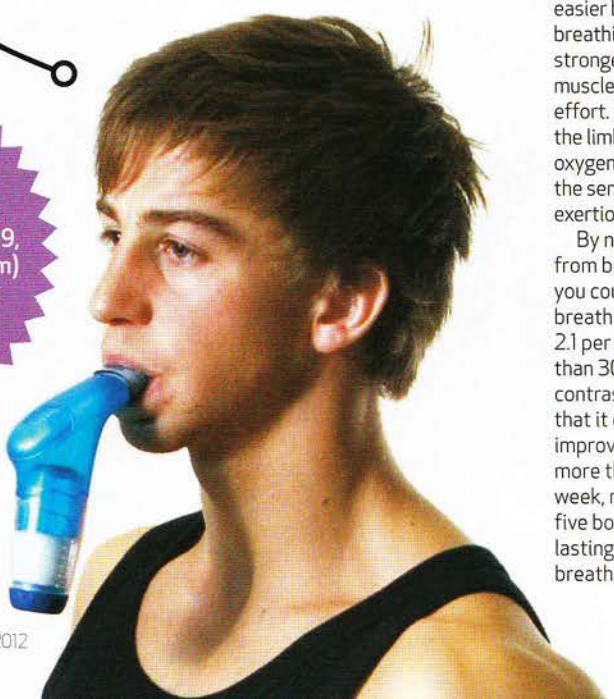
Breathing training is not just for the serious athlete



THE HOW

Resistance (weight training) is a routine part of most serious athletes' training schedules, but the idea of applying these principles to the breathing muscles has been slow to reach the mainstream.

By using a device that can be likened to a dumbbell for your breathing muscles (such as the POWERbreathe), the strength, power and endurance of these muscles can be increased. These are muscles like any other, and they respond readily to the right kind of training. A typical training regimen consists of 30 breaths, inhaling against a moderate intensity load, twice per day. Training sessions last less than two minutes, and can be undertaken virtually anywhere, making this one of the quickest and easiest training adjuncts around. The results are literally breathtaking, particularly since the training requires so little time, and is effective in virtually any sport.



Use a device like the POWERbreathe (£29.99, www.powerbreathe.com) to boost your fitness

THE WHY

The underlying mechanisms for the improvements in sports performance are not as you might first assume. Most people think that the benefits come from increased uptake of oxygen in the lungs, but they don't. Nevertheless, the mechanism does involve oxygen delivery. Over the course of the past decade, an important vascular reflex has been discovered, which originates from the breathing muscles.

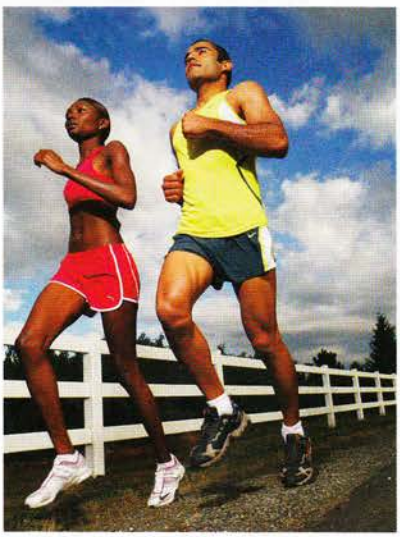
Intense breathing muscle work activates the reflex, causing limb blood flow to be restricted, impairing delivery of oxygen and removal of muscle metabolites. The good news is that breathing muscle training increases the intensity of breathing work required to activate the reflex. So it's possible to work harder, and longer, before the reflex directs blood flow away from the limbs. As a result, performance can be improved in a wide range of sports and exercise modalities. It's that simple, and that profound.

Breathing muscle training also makes breathing feel easier because it makes the muscles stronger. This means breathing training is not just for the serious athlete. Being stronger also increases the endurance of the breathing muscles, delaying fatigue, which also lessens breathing effort. Finally, because breathing feels easier, and because the limb muscles are better supplied with blood (delivering oxygen and removing metabolites), leg discomfort, and the sense of effort associated with exercise (perceived exertion) is also lower – exercise simply feels easier.

By now you may be wondering how the improvements from breathing training stack up against other additions you could make to your training. In a study of runners, breathing training improved 5000m performance by 2.1 per cent (around 20 seconds), and required less than 30 minutes per week of additional training. In contrast, a study of additional interval training showed that it delivered a 1.5 per cent (around 13 seconds) improvement in 5000m performance, but it required more than four times the amount of training per week, not to mention the commitment to complete five bouts of near maximal running per session, each lasting five-and-a-half minutes. The choice is yours, but breathing training wins hands down for my money.

THE WHEREFORE

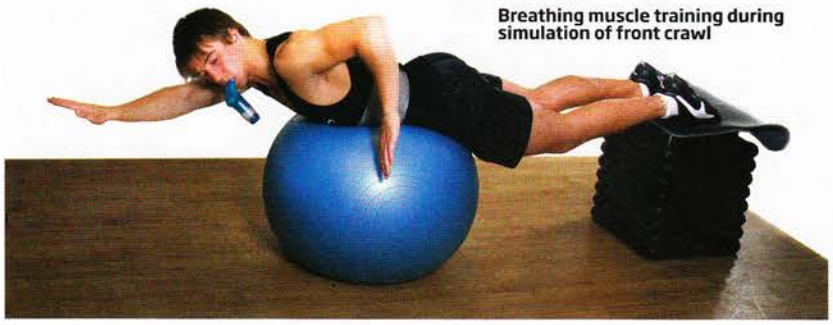
Just as resistance training techniques have evolved, so too has breathing muscle training. Where once the focus of resistance training was on training individual muscles, modern approaches train movements, ie functional training. The principle of functionality is even more important when it comes to the breathing muscles. The muscles of the trunk must not only deliver adequate breathing, they must simultaneously contribute to movements that are an integral part of sport. Everything from the swinging of a racket, to the pull phase of front crawl swimming, requires a contribution from muscles whose primary role is considered to be breathing. Hence, functional breathing training methods have been developed, in order to enhance the ability of the breathing muscles to meet the demands of breathing and functional movement. These can be as simple as



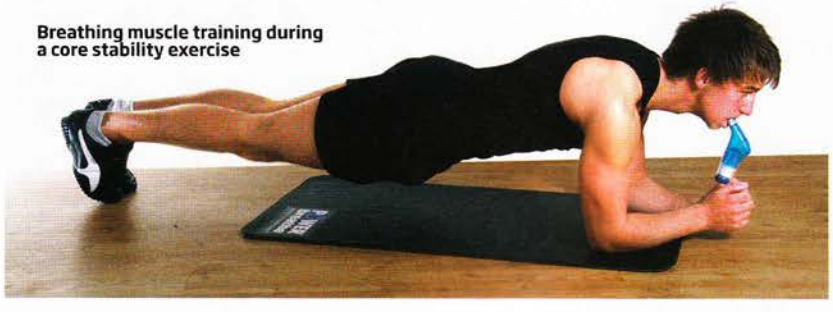
Breathing training can improve your running performance

incorporating breathing training into a basic core stability exercise, such as the plank, to incorporation into the core stability challenges of front crawl swimming.

So if you're looking for something to give your competitive career an extra boost, or you simply want to make your physical endeavours feel easier, then get into some heavy breathing – it might sound too good to be true, but the science says it really does work.



Breathing muscle training during simulation of front crawl



Breathing muscle training during a core stability exercise

If you want to know more about breathing training, or Alison's book, visit **www.breathestrong.com**