Chapter 6

Take a Deep Breath

Here's something I think might surprise many everyday runners: When I was at my best, reeling off 12 consecutive 63-second laps in the 5,000 metres, I wasn't gasping for air. I was working as hard as I could, believe me—going the whole way at 4:15 per mile. But I was still able to keep my breathing relaxed and controlled: generally a nice, evenly balanced rhythm of three steps for each breath in and three more for each breath out.

When I set my personal best (13:15) that night in 1981, I wasn't gasping for breath even on that all-important last lap. To be honest, I can't remember exactly how I regulated my breathing on that final trip round—I was probably too busy with other things, like trying to figure out how in the world I could sprint faster this time. But I can promise you that, even then, I wasn't breathing any more often than two steps in and two steps out. Neither was Henry Rono, who beat me that night in a U.K. all-comers record time.

Over my career, I was privileged to run against many world-class runners—world record breakers, Olympic medallists, and world champions. I don't recall any of them gasping. I trained regularly with Dave Bedford and Steve Ovett—world record holders both. They didn't gasp, either—and it wasn't just because they found it so easy to keep up with me!

The same cannot be said for most everyday runners, though. Many of them have only two ways of breathing—two steps in and two steps out if they're going at a comfortable pace, and one step in and one step out if they're pushing hard or going up a hill. A few of them try to find a halfway point between those two, breathing in for two steps and out for one, for example. That's unbalanced and even more undesirable.

There's a reason the top runners don't puff in and out with every step, even when they're exerting maximum effort: It doesn't help. It would use too much energy. It would keep them from running as fast as they're capable of doing.

And the same goes for you.

Panicked puffing makes you tense when you want to be relaxed, which means you can't use your lungs to their fullest capacity. You're too tense; your chest is too tight; your breaths are too shallow. All you're doing when you breathe that

fast is blowing out unused air. You're absorbing less oxygen than you would if your breathing were slower, deeper, and more controlled.

Run tall and relaxed. If your posture is poor, if you're tense, or if your chest and shoulders are taut, your breathing will be constricted. Keep your shoulders relaxed, loose, and flexible to allow your chest to expand.

Just as no one teaches you how to run—although I think they should—no one teaches you how to breathe. Like running, the thinking goes, breathing is not a skill; it's just something everyone does naturally, right? Well, fast running *is* a skill. And so is controlled breathing. My experience as a coach has shown that neither of these skills just comes naturally to people. And the most difficult and unnatural aspect, if you want to put it that way, is breathing control. But it's necessary. Quite simply, if you can't breathe in a controlled and relaxed manner while you're running at speed, you're going to grind to a halt.

It's exactly the same as in swimming. The first priority is to be able to control your breathing. Only when you can do that can you start to make progress.

Fortunately it's much easier with running, when your head's not underwater and you're not feeling like you're about to drown. But the principle is the same: Develop that skill, and you'll increase your top cruising speed. If you can control your breathing and feel comfortable going fast, suddenly running becomes much easier and more enjoyable.

The way to start is to convince yourself that you *can* control your breathing much more than you thought. Try it and you'll see. You can breathe slowly and deeply in circumstances where you would have thought it impossible.

I know a lot of people say they can't. If they've just charged up a hill, for example, or done some fast repeats, they have no choice but to heave and pant. There's a panic to the way they feel when they're out of breath. They think that if they don't gasp they might pass out from lack of air. The panting is a reflex; it's involuntary; it's just what the body does when it needs oxygen. They're convinced they can't control it.

But I think they can.

There's a little trick I use to prove it to people, often with groups of kids, but it works with anybody. I give them all some brisk workouts to get them well out of breath, after which they gather in a group, puffing like Vesuvius. Then I tell them they need to know their heart rates, so they all have to count their pulse for 10 seconds.

Lo and behold, silence falls. The gasping stops as if by magic. They can't hold their breath for 10 seconds at that point; instead what you're left with is strong, quiet, controlled breathing while they concentrate on their counting—proof that people *can* regulate their breathing to a much greater extent

than they think. Which is actually much more important than knowing what their heart rate was!

Now that you know it's possible to transform ineffective panting into a strong controlled breathing pattern, let's talk about how you can get better at it, even while you're running at speed.

The problem many people encounter when they get out of breath is that they don't breathe out sufficiently, and therefore there's very little room for more air to get into their lungs. This is the feeling that leads to gasping, panic attacks, and sometimes exercise-induced asthma.

When you're running the key to breathing control starts with the *exhaling* phase. Breathe out slowly and fully, and you'll create more space for new, oxygen-rich air. The inhaling phase is the reflex action that will happen automatically; it is the breathing *out* that requires most control. When you're running, unlike swimming where you only have time for a quick gasp, the inhaling phase should last as long as the exhaling phase, and again this takes an element of self control. I think the best advice is to measure your breathing against your footsteps, always keeping to an even pattern of four steps in, four steps out, or three and three, or two and two, depending on how hard you are working.

You need to master the skill of effective breathing. And the main way to improve your ability to control your breathing while you're working hard and under pressure is to practice it. From time to time on your steady runs, try sticking to a four steps in, four steps out breathing pattern. And on your harder efforts, try to hold a rhythm of three in, three out.

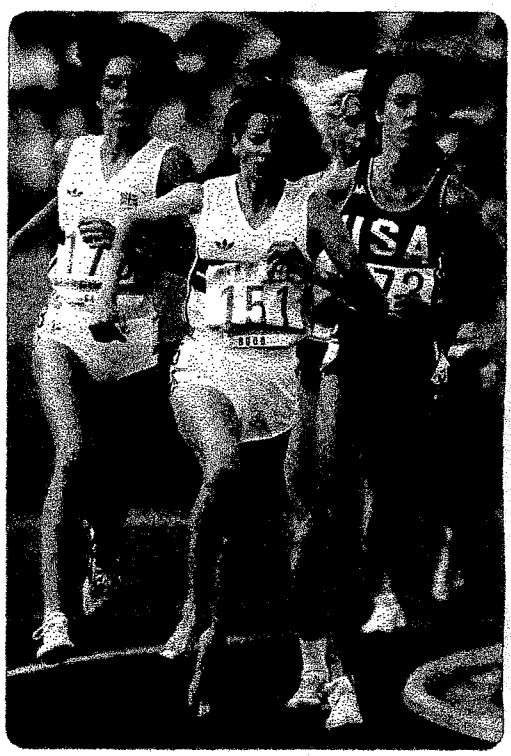
This breathing pattern may be quite hard at first if you're not used to it. Changing a pattern you've used for years is bound to be difficult. You might panic a bit and think you can't keep it going. Maintaining your control whilst breathing out at a slow and steady rate will be most difficult. You may reach a stage where you're desperate to breathe and suddenly you manage a deep sigh, almost like someone who's been crying and then sighs deeply. This will give you a huge sense of relief and you will then be able to relax again and feel that things aren't so bad after all.

I don't quite understand what happens with your body when you do that, but I found it a very helpful thing to practice. Because after a big sigh, I'd feel everything was OK. I was still going fast, I was still able to keep my stride length, and I was still breathing four steps in and four steps out, which is how I did much of my training.

I have said that none of the top-flight athletes I ran with gasped as they ran. Perhaps I should have said almost none. Zola Budd, the talented (and often barefoot) South African runner and world record holder, was an exception.

For all her ability, Budd is best known for having collided with the American runner Mary Decker, another world record holder, in the 3,000-metre final at the 1984 Olympics in Los Angeles. Decker fell heavily, the field rushed on, and the hopes of gold she had cherished for so long were forever gone. Initially, Decker blamed Budd for the collision. Even though many years later Decker changed her tune, Budd will never live down that moment and will always have to suffer the hurt of being disqualified in an Olympic final.

Earlier that year Budd had come to the U.K. to train. South Africa was banned from the Olympics because of apartheid, and she wanted to qualify for selection to the British team so she could compete—which she did. She was only 17 years old at that point, and I trained with her several times.



AP Photo

Before the fall, Zola Budd, Wendy Sly, and Mary Decker in the 1984 Olympic 3,000-metre final.

Running alongside her, it always seemed to me as if she were running too hard, puffing and puffing and puffing. It was very noticeable, and you'd think 'Surely she can't keep this up, she must slow down soon.' But she never did! She just carried on. But every quarter mile or so, she would take one huge deep breath, and then let it out like an enormous sigh. And then immediately she'd be back to her puffing. It was really strange. I'm not sure she even knew she was doing it. But it did seem to help her keep her breathing under control and enable her to keep up such a fearsome pace.

I've been talking so far about matching your breathing to your steps. And controlled breathing is vitally important. But actually, it can be very helpful to think of it the other way round: Try matching your steps to your breathing. Instead of using your steps to slow down your breathing, use your breathing to speed up your steps. If you've read this far into the book, you'll know that quick feet are essential to running fast. If you don't allow yourself to breathe in until you've taken four steps, that's a powerful incentive to move your feet fast. And you can also practice opening up your stride a lot while keeping your feet just as quick—which is the essence of running very fast. Use your breathing to help keep that quick, urgent cadence.

I remember my normal lunchtime run round the Stray at Harrogate—a massive L-shaped green that stretched along two sides of the town, probably more than four miles around. I always had little checkpoints on my regular runs that let me know how I was doing. On this one, I'd warm up and stretch in the first half mile, and then there was a road to cross to get to the Stray. Normally, it would take four or five steps to cross it. But sometimes, without any effort, I found myself doing it in just three. What a feeling—no effort, and just eating the ground up! So that was the first little check on the run, a real indicator that I was in the groove and moving well.

I would usually do my lap round the Stray at a fairly steady pace, running mostly on the grass. And at the end, there was a quite a long, slightly uphill finish on the pavement, which consisted of large, evenly spaced paving stones. Even though it was uphill, I would try to land only on every third slab—forcing myself to marginally overstride while still maintaining a four steps in, four steps out breathing pattern. It wasn't a sprint, but it was quite fast and, being uphill, extremely difficult. What an incentive to keep that cadence quick! And maintaining that degree of breathing control was a killer, I'm telling you. Definitely not sustainable for very long.

In a sense, I was trying to mimic altitude training, where your body is deprived of oxygen. Nowadays it's called hypoxic training. It's thought to increase the ability of the muscles to work better when oxygen levels are low, like at the end of a race. Coaches have swimmers do it—they tell the athletes they're only allowed to breathe once every six strokes—or not at all for a whole length. That's a killer, too, and it's the same sort of thing I was trying to do on that little bit of the run all those years ago.

If you want to keep your breathing controlled, it's important to increase your lung capacity. Like your heart, your lungs adapt to the demands placed on them in training. And just as a big heart needs to beat less frequently than a small one to pump the same amount of blood around the body, so a large pair of lungs needs to inhale less frequently than a small pair.

Long steady runs will enhance your body's ability to absorb oxygen. But your Mini-sized lungs will only develop Rolls Royce proportions if your training is intense enough to stretch not only their efficiency but also their capacity and power.

If you're tight when you run or your posture in general is bad (whether you're running or not), that can make your back, shoulders, and chest stiff. That, in turn, restricts your breathing so that inhaling takes more effort. You take shallower breaths, using only a small portion of your lung capacity and expelling the air before much of the oxygen's absorbed. Accordingly, you will feel out of breath before you should.

In the old days of *Chariots of Fire*, athletes used to fling open the bedroom window first thing in the morning and do some deep-breathing exercises.

Sometimes that would be it for the day. They were on the right lines—they just needed a bit more exercise!

You can loosen and strengthen your upper body by swimming—the front crawl or back stroke—and by doing press-ups, bench presses, and other exercises with light weights. Exhale strongly as you lift the weight and breathe in slowly as you let it back down.

In addition to bench presses—lying on your back on the bench and pushing the barbell straight above your chest—two other weight exercises are particularly helpful, not so much for building strength as for stretching out your chest and shoulder muscles and opening up your chest to enable you to breathe more easily. You only need very light weights:

- Lying on your back, as you would for the bench press, extend your arms upward with a dumbbell in each hand. Keeping your back flat on the bench, gradually inhale and lower your arms until they're extended beside each side of your head, horizontal to the floor, with elbows slightly bent to avoid injuring your shoulders. Exhale strongly as you lift your arms back to the starting position.

- Lying in the same position with your arms straight up from your chest and a weight in each hand, lower your arms until they're out to your sides and horizontal (again with elbows slightly bent), then slowly return them to the starting position. Remember: Steady, controlled breathing—breathing in as you stretch and out as you lift—is crucial.

Remember, upper body strength improves your running in many other ways, as well, so you're doing more than just helping your breathing. Flexibility and power are helpful in allowing you to breathe correctly, but on their own they're not enough.

Just as you can develop your muscles, you can develop your lung capacity by breathing deeply and stretching the chest muscles to allow your lungs to fully expand. Your lungs have millions of alveoli, tiny air sacs where the oxygen you breathe in is exchanged for the carbon dioxide you breathe out. It is here that oxygen is absorbed into the blood stream. These alveoli have a large total surface area—the size of a tennis court if they were spread out. But if you don't breathe deeply—or if your chest muscles are not flexible enough to allow your lungs to expand fully—many of the alveoli aren't used at all. Your ability to absorb oxygen is diminished and certainly not developed to its full potential.

Most sedentary people use only 20 or 30 percent of their potential lung capacity. Many runners use only about 60 percent. You want to get as close to 100 percent as possible.

And not only in a race, but also in training. The alveoli are surrounded by a network of pulmonary capillaries. As with your muscles, exercise dramatically

increases the capillarization of your lungs. But that only works for the portion of your lungs that are getting used regularly. It's no good developing more capillaries to only half your alveoli. You want to work on them all.

To increase your lung capacity, it is important to breathe deeply, whether running fast or slow. In addition, it is important to do some sessions in which you breathe deeply—and rapidly. The most effective sessions are short repetitions with very short recovery times.

In these sessions it is not the speed you run that matters, so much as the short recovery, so you don't need to hammer your legs or fear injury. As a starting point, an ideal session would be five sets of four times 100 metres, run at about 90 percent effort, with only 15 seconds rest between each 100m, and two-minute recoveries between sets. This makes you get out of breath—and recover—20 times. Yet you've only run two kilometres, and soon afterwards your legs will feel comparatively rested.

From this starting point, you can progress in two different directions: You can work toward eliminating the 15-second rests until you end up running five (or more) times 400 metres at nearly the same speed and with the same two-minute recoveries. Or you can progress toward five sets of four times 200 metres, with the same 15-second rest. An intermediate stage would be to alternate sets of 100 metres and 200 metres.

Fifteen seconds is not a lot of rest. After just 15 seconds you'll still be out of breath, and thinking you're not yet ready to go again. But force yourself: Once you do get going, you'll feel OK, and your breathing will settle down again. It's strange but true—you will feel more out of breath during these short 15-second rests than when you're running fast. And remember, in a race you don't get any rest at all. So you should be confident that you can run at a good speed and sustain it. You'll know that you've run 20 repeats much faster than your race pace and that, if you push hard during a certain part of the race, you can recover very quickly. Keep your breathing controlled and relaxed, perhaps by taking one of those big sighs at the top of the hill, and you'll be on your way again while the other runners are taking a half mile or so to get themselves back together.

There's another benefit to quiet, controlled breathing: It psyches out the other runners. If the runner next to you is puffing away like mad, you sense that he or she is suffering a lot more than you are. And you feel like you can make a move anytime you want. And that runner's impression of you will be of a super-fit athlete who's just cruising along!

To be honest, although that's true 99 percent of the time—I do remember an exception. One year in a Middlesex Cross Country Championships, a seven-mile race, I wasn't running particularly well at the time, but I was in the leading group of three. After about two miles, one of the other guys was heaving away, sounding for all the world like a steam engine. I heard him next to me, rasping noisily, 'Uhhh-huhhh, uhhh-huhhh, uhhh-huhhh.' I thought, 'My God, that guy is running *way* too fast. He's never going to last at that pace.'

And, what do you know, the darn guy ran the whole way like that and eventually pulled away from me and won the race! I could *not* believe it. But I have to say that's extremely unusual, so don't emulate it. It won't help. That guy won in spite of the energy he wasted on his breathing, not because of it. In a funny way, he out-psyched me because he sounded so bad. I thought I had him beaten, but I lost my rhythm, and he kept pulling away.

You will help yourself by including some specific breathing drills in your training. These could include the following:

- Keep talking without gasping during your steady runs—and especially when you're running uphill. (If you're suffering, don't show it. Just ask your training partner a difficult question at the bottom of a hill and see how he responds!)
- Occasionally, see how long you can maintain a pattern of breathing in for four steps and out for four steps while running at a good pace.

The benefits of learning the skill of breathing correctly are manifold. It allows your lungs to absorb more oxygen and lets you relax more as you run, too, saving your energy. It also gives no encouragement to your rivals.

The effect on you should be like a car coming down from altitude to sea level—and taking the brakes off. It's a double whammy if ever I saw one!

KEY POINTS TO REMEMBER

- Run tall and relaxed so your chest has room to expand.
- Strengthen your upper body and increase the flexibility of your chest and shoulders by swimming front and back crawl and lifting weights.
- If you're running with a group, talk a lot.
- Do your steady runs while inhaling for three steps and exhaling for three steps for as long as you can maintain it.
- Sometimes, try to run while breathing in for four steps and out for four steps for limited periods.
- Improve your lung capacity by doing short repetitions with very short recovery times.