

Breathing & Relaxation Techniques for Endurance Athletes

By Ben Greenfield

It happens to most runners - that dreaded heart rate spike during what was supposed to be a long, slow effort. You've reigned in your speed, you've kept hydrated and cool, just to keep that adrenaline rush at bay. But now your heart rate is racing and you've strayed outside your heart rate "zones" for your training session.

So what went wrong?

While running can do wonders for the cardiovascular system, it can also cause involved muscle groups to dramatically tighten. And this often includes vital inspiratory and expiratory muscles surrounding the ribcage, as well as the upper back, shoulders, and neck. So while a tight or non-relaxed running posture might result in a trip to your massage therapist for a post-run rubdown, it will also invariably result in short and shallow breathing. To compound the problem, most runners have not been taught how to properly breathe in any activity, including running. In such a scenario, this "tight torso/shallow breathing" causes limited air intake and results in less oxygen availability for working muscles, which means the heart has to pump more of your subpar-oxygenated blood at a faster rate in order for you to maintain your seemingly relaxed pace.

And you're now working at 90-95% of maximum intensity, when your running program tells you to be at 70-75%.

So rather than focuses on deep, diaphragmatic breathing, relaxed head, neck and shoulders, and loose arms, many runners will simply stop and walk. When the heart rate comes back down, they begin running again, and eventually repeat the cycle. This not only ignores the root of the problem, but it turns what was supposed to be a purely aerobic run into an interval session, which trains the aerobic/anaerobic systems to work like a roller coaster. Sure...intervals should be a basic part of any training program, but not a part of a long endurance training session!

What's the solution to the problem? Endurance athletes, and especially runners, need to intensely focus on breathing and relaxation drills, and then apply these drill concepts to their long run. Before giving you three key breathing drills, it is necessary to discuss how to actually breathe. Even if you've previously learned about diaphragmatic breathing, I encourage you to read this section anyways, just as a review.

Most people breathe with their chest rather than their belly. This kind of breathing just isn't effective, because you are limiting the volume of air you can move into your body. Think of it like breathing through a straw. Not very effective, right? While you sit and read this article, try the following breathing technique.

When inhaling fully through your nose (preferably) or mouth, you should loosen your stomach muscles so that it feels like your stomach is moving outward when you breathe in (really, it's just your diaphragm expanding). When exhaling through your nose, you should allow your bellybutton to move in towards your spine, so that it feels like your stomach is moving inward when you breathe out (this is just your diaphragm contracting. Do you feel more air coming into your lungs? You may even feel your heart rate slowing down as the blood becomes more saturated with oxygen.

Drill 1 - 3-In-5-Out

If you're an endurance athlete who struggles with the heart rate spiking problem, begin to incorporate this drill at least three different times during the day (i.e. on the elevator, in the shower, before your run). As you breathe, attempt to "hear" your breath.

Utilizing the breathing pattern discussed above, draw in a steady breath to the count of three.

Hold the breath for a three count, but try to stay as relaxed as possible while holding the breath. Think of it as being "suspended" in your body, and not "held".

Now, breathe out, deeply and slowly from the stomach, to the count of five.

Wait for a three count.

Repeat the entire pattern 3-5 times.

Drill 2 - Leg Raises

For the following Drill #2: Leg Raises, just focus on completing it once at some point during the day. I suggest completing it in the morning as part of a stretching routine. Lie down on a flat, somewhat solid surface (i.e., not a bed). During the entire drill, try not to let your lower back "arch" off the ground. This may require forcefully keeping the bellybutton pressed down.

While fully inhaling, slowly raise the right leg as close to 90 degrees as possible. Attempt to inhale slowly enough to where you can continue to inhale for a count of three when the leg reaches 90 degrees.

After the three count, fully exhale while slowly lowering the leg.

Repeat the exercise with your left leg.

Now repeat the exercise with both legs.

Complete this entire sequence 3-5 times.

Drill 3 - Runner's Salutations

Step 1

Finally, Drill #3: Runner's Salutations incorporates some of the core principles of Yoga. This is a perfect drill to do immediately prior to your long run as part of your warm-up stand with your feet together and your arms at your side. Take a deep breath. Bring arms up over your head with the palms together. Tilt your head back, and look toward your thumbs, pressing your hips slightly forward. Tighten your thighs and buttocks. Do not arch your back.

Step 2

Exhale (remember the diaphragmatic breathing). Bend your knees slightly, bringing your palms to the floor alongside your feet. Tuck your head into your knees. Inhale. While maintaining this position, raise your head, look up and lift your chest.

Step 3

Exhale. Walk your legs back until your body is straight like a plank. Drop down into a push-up position. If this is too difficult to hold, you can drop into a modified knee push-up position.

Step 4

Inhale. Push your torso off the ground with your arms, keep your legs and feet on the ground (tops of the feet should be facing down) and raise your head, looking up at the ceiling.

Step 5

Exhale. Adjust your feet so that your toes are on the ground and pick the butt towards the ceiling into a capital letter A position, pushing the heels backwards and the palms forward.

Step 6

Bend knees, and step forward to the second position in step 2 above, then inhale and stand into the first position in step 1 above.

Repeat this sequence three times before your next run. Eventually work up to 6-8 repetitions.

Now, after learning the 3 key breathing drills focus on utilising the same pattern during your run. There is no magic breathing pattern that says you must breathe in once every two strides, or twice every one stride. Just breathe as naturally as possible, but be sure to utilise diaphragmatic breathing. To put you in the proper breathing mood, it may be necessary to precede your run with a 5-10 minute walk, in which you gradually increase speed while focusing on deep and relaxed breathing from deep inside your stomach. Although I recommend continuing to breathe through your nose, it may be necessary to breathe through your mouth, depending on your unique nasal and sinus profile (my nice way of saying that not everybody has big nostrils like me). Finally, remember that the problem is two-fold. Now that you've taken care of breathing, what about the upper body tightness in the head, neck, shoulders, and jaw? The good news is that most of it will naturally diminish as a proper breathing pattern takes precedent. However, it may also be necessary to focus on the following relaxation drills, especially during your long run:

Arm-Shakes

Every 5 minutes, completely loosen the shoulders, straighten the arms, and allow both arms to hang and wobble at your sides for 30 seconds as you run monkey style.

Tongue-Press

After the Arm-Shake, press the tongue firmly against the roof of the mouth and hold it there for 8-10 seconds. Then allow it to relax, and as you do so, feel the tension released from your jaw and neck muscles. Focus on maintaining this relaxed jaw until your next Tongue-Press.

Horizon-Glance

Pick a distant spot on the horizon and gaze at it for 8-10 seconds. You should feel your posture become more proud as the elastic recoil from the ground pushes you forward.

Seem like too much information? It is quite a load. Gradually adopt these breathing and relaxing drills into your program over the course of several weeks, and it won't feel like such a drastic change. If you really want to see positive physical changes, it will take profound mental commitment. But once these habits become an integral part of your running program, you'll be able to go on auto-pilot during those long runs and be confident that you won't stray into overexertion or overtraining.

References

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Article Source: http://EzineArticles.com/?expert=Ben_Greenfield.