Breathing Easy

Here's the right way to get oxygen to your muscles.

By Terry Laughlin

The rules of breathing are simple in sports like cycling or running. You need a breath? You take a breath. You need more? You take more. Oxygen is there for the asking. A regular no-brainer. And then there is for swimming, where it sometimes seems, to frustrated novices and cross-trainers, that the simple act of getting oxygen to your muscles is a monumental task. And the stakes are high. Wiped out by just a few laps? It might not be your conditioning that's at fault. It might be your lack of breathing technique that gets in the way of a good workout or discourages you from swimming altogether.

Sloppy breathing, in fact, drags down more inexperienced swimmers than any other part of the stroke. Everything's smooth when these people can keep their faces in the water. But sooner or later they have to turn to get some air and…bam! As soon as they do they plow the water instead of gliding through it. They're squandering energy 40 to 60 times a minute (or about 10 times every 25 yards). Once you get the breathing right, it will fit naturally into the stroke flow, and, in fact, can even add power to the stroke because body roll is what produces power and you should roll more when taking a breath than when you're not. But the key is to breathe with that body roll, not by turning the head. Here's the whole story.

Among all aspects of swimming technique, freestyle breathing may suffer from the greatest number of common misconceptions. First among these is the one mentioned above--that you breathe by turning your head. Try this simple test: As you sit comfortably reading this, turn your head 90 degrees from center, pointing your chin first at one shoulder, then at the other. I enjoy fairly free range of motion in my neck, but head-twisting of that sort still creates considerable tension and resistance in my neck and upper back. Now try that same head-twisting action while lifting your chin in the head position typical among most swimmers. Even more tension and discomfort.

Which is why many coaches tell you that you should limit the head-turn to the least possible movement when breathing. Wrong again. Combining this with the flat body position also so typical among swimmers results in a head-craning movement that causes even more tension and restriction.

And finally, there's the powerful human instinct to breathe with head lift. If you put any non-swimmer, infant or adult, in deep water, their strongest survival instinct will be to protect themselves by fighting to keep the head above water. This deeply rooted instinct continues to influence breathing habits in dramatic ways for unskilled swimmers, and in subtle ways for skilled swimmers. Repeating any of these stroke errors 2,500 times an hour will cramp even the most fluid swimming style.

So if we shouldn't breathe in any of the traditional ways, how should we do it? Very simply. As I said above, rather than breathe by turning your head, breathe by using body roll to take your head to air while keeping your head aligned with your spine and your chin aligned with your sternum; you'll start swimming more easily, comfortably, and efficiently…immediately. Here are four stroke modifications that will help you breathe easy immediately.

Hide your head. Before you can breathe with body roll, you need to be able to roll easily and smoothly. Your first move should be to ignore the age-old swimming "rule" that says you should look forward and keep the water at your hairline. Simply raising your head to that position as you sit reading this will tell you that it's an unnatural position that causes tension along the length of your spine. You can eliminate a great deal of needless muscular tension by holding your head in its most natural position--in other words, the way you hold it when you're not swimming. If you do this right, you'll feel as if the water is about to flow over the back of your head when you're not breathing. And keep your head in line as you roll to breathe.

Roll to the air. Now that you've got your head on straight, try this exercise: Put down your magazine and stand up. Looking straight ahead and with your head aligned with your spine (imagine a steel rod extending up the length of your spine and out the top of your head), place your right arm straight overhead, with the bicep pressed to ear. Turn your entire body 90 degrees toward your left side, keeping your chin and sternum also aligned as if doing a military left-face. You have just rehearsed the ideal movement for freestyle breathing. The object is to keep head and body aligned as you roll a perfectly balanced body. The degree of your roll should be sufficient enough so that you neither have to turn nor lift your head to find air. In fact, if you imagine that you'll breathe through your navel, not your mouth, you're almost guaranteed to do it right.

Breathe rhythmically. Your stroke rhythm is a body-rolling rhythm. Since, as I've just explained, you breathe by rolling your body, your breathing and stroke rhythms should be indistinguishable. One of the most common stroke errors among novices is trying to prolong the breath by staying over on your side just a bit longer. When teaching Total Immersion workshops, I explain that you should breathe by rolling to where the air is and immediately roll back the other way with no change in rhythm. When you want to stroke faster, you do it by speeding up your body-rolling rhythm, so you also breathe faster.

Emphasize the exhale. This seems counterintuitive since it's the inhale that brings precious air into your lungs, but inhaling is nearly automatic. You just open your mouth as it clears the water and air naturally fills your lungs. You spend much more time in each stroke cycle exhaling than inhaling, and completely clearing stale air from the lungs is one of the most important things you can do. Trying to hold some air in your chest to assist with buoyancy, or simply doing it involuntarily in some atavistic breath-holding reflex, will mainly make you feel oxygen deprived. What good will it do you to float a little higher if your muscles are giving out from lack of oxygen? The presence of carbon dioxide in your lungs, not the absence of oxygen, is what makes you feel that way. Because of the pressure differential between air and water, you need to exhale more emphatically into water than you do into the air--and you do exhale into water for part of your breathing cycle since you start exhaling as soon as your face returns to the water after each breath.

Once you've mastered the basics, you can move on to Breathing 101:

Should I breathe to both sides? You should if you can, but few new swimmers can do that. Virtually all swimmers favor one side in breathing, and breathe to that side all the time because it feels more natural. Trying to breathe to the other side feels awkward so you just don't do it: who needs to feel even more awkward in the water?

The problem with breathing only to one side is that it tends, over time, to make your stroke lopsided and asymmetrical. In an hour of swimming, you'll probably turn your body to your breathing side about 1000 times, meaning all your torso muscles pull more in that direction and less to the other side. Multiply that by hundreds of hours of swimming and you'll soon be making a lopsided stroke permanent. The best correction is bilateral breathing, which can be done in several ways.

Breathing every third armstroke is the simplest, but that also means you breathe one-third less often than when you're breathing every cycle on one side. That shouldn't be a problem when you're swimming easily, but could leave you feeling winded when you go harder. My solution is to breathe to my right side on one length and to my left side on the next. That way I still get to breathe on every cycle. I tend to breathe on my left side, my more natural side, when I'm swimming hard, so I'll balance that by breathing on my right side when I'm going more easily. My objective is, over time, to breathe as often to one side as to the other.

Again the key to being able to breathe comfortably on either side is learning to balance just as well when breathing to your less natural side, and the key to that is learning side-lying balance. If you don't feel comfortable breathing on your right side, it's because you don't balance well when rolling to your left, so work on left side balance to make it easier. If you move beyond fitness swimming, you'll find it's helpful to be comfortable breathing to either side in a triathlon or other open-water swim race.

Can I get a Rocky Mountain high by holding my breath? Hypoxic training, as intentional breath-holding is called, has been in vogue among coaches for about 25 years. The intent is to acclimate swimmers, both mentally and physically, to the discomfort of swimming without breathing, and thereby simulate the effect of training at high altitudes. So coaches instruct swimmers to breathe only every 5, 7, or 9 strokes while swimming fairly hard. But when researchers studied the effects of hypoxic training, they discovered that all it does is raise carbon dioxide levels in the blood, which has no training value.

I have learned, however, that it is possible to gain some technique benefits from breathing less frequently. Having less air forces you to slow down and swim more economically--to use less energy--since energy metabolism is limited by the availability of oxygen. When you supply less, you must slow down the rate of energy metabolism, so breathing every 5 or 7 strokes forces you to find subtle ways to use less energy while swimming. And that exercise in energy economizing can be very helpful. But keep that body rolling between breaths!
Happy laps!