

Inside Out Breathing: Get the Air You Need.

Breathing is such a natural activity that we seldom give it a thought. The only time we even become conscious of it is when we're breathless from exertion or, well, panic. Or in the case of swimming, sometimes both at once.

There is probably a greater range of breathing skill in swimming than in any other activity. Elite swimmers can breathe effortlessly while maintaining perfect form at maximum exertion and world-record pace. Seasoned open water swimmers can do the same with waves or wind-chop smacking them in the face or a pack of churning swimmers at their elbow. At the other extreme, novices may be unable to experience any comfort so long as any part of their face or head is in the water and the challenge of getting air is so all-consuming that they have no presence of mind left for focus on form.

Breathing is unquestionably the most fundamental of all swimming skills. If you can learn to do it nearly as well and automatically in the water as on land, it helps calm and focus you to work on basic skills. It also provides the aerobic capacity to swim long distances and fuels the power to swim at maximum speeds. Finally, the swimmer who masters Aquatic Breath Control can use breathing skills just as effectively to relax, improve their ability to concentrate and deepen self-awareness while working on skills, and to recover more fully and completely from any level of exertion. Since you have no choice BUT to breathe while swimming, why not choose to become a true master of Aquatic Breath Control?

Bad Air Out, Good Air In

For most folks, the most instinctive way to breathe is to pay attention to the inhale, but for the exhale to be an afterthought. In swimming, as well as other activities that involve enough exertion to lead to breathlessness, it should really be the opposite. Focus on the exhale; let the inhale take care of itself.

Here's why: Each time we take a breath, the air that goes into our lungs is about 21 percent oxygen and the barest trace carbon dioxide. The air we exhale is about 14 percent oxygen and nearly 6 percent carbon dioxide. What this means is that, when we feel "out of breath" it doesn't mean we're suffering a lack of oxygen since we consume only about one third of the oxygen we take in. Instead, that breathless feeling is caused by an increase in the level of carbon dioxide in the bloodstream. Thus, to maintain a sense of relaxation and comfort, you should focus mainly on exhaling, because that will more fully clear accumulated carbon dioxide. You can heighten your awareness of the distinction between inhale-focus and exhale-focus through a series of exercises we might call "Inside Out Breathing." You can do this while sitting comfortably at your computer as you read this:

1. Start by actively and emphatically drawing air into your lungs. Exhale simply by releasing it, rather than actively pushing it out. You can do both through your nose. Repeat five or six such breaths.
2. Switch emphasis, by actively pushing air out. You can heighten awareness for this change by practicing a breathing exercise, known as *pranayama*, drawn from yoga. As you exhale, constrict your throat slightly to produce a rushing sound, loud enough to be heard by someone across the room. As you do, you'll be more conscious of the air passing through your throat than through your nostrils. Repeat 8 to 10 such breaths.
3. Finally, continue your exhale-focused breathing, but consciously shift to making each inhale as passive as possible. How much of your lungs can you refill simply as a response to the "vacuum" you created with your exhale, before transitioning to a more active inhale. Repeat until you notice an increase in your ability to refill passively.



A Practice Devoted to Breathing Focus

The next time you go swimming, I suggest you put your primary focus on breathing, and specifically on using your exhale as a way to both regulate and control effort. Do this with a series of three sets of repeats, each set lasting about 10 minutes. Choose any repeat distance from 25 to 200 yards. Rest for 3 to 6 deep, slow breaths between repeats in each set. Rest for an additional one to two minutes between sets. Breathe every two to three strokes (not cycles) throughout.

- Swim the first round at a moderate effort, perhaps 65% effort. Maintain consistent effort throughout the set, or increase your speed slightly every few minutes. Put most of your focus on exhaling steadily, beginning as soon as you complete the inhale. As you progress through the set, consciously make the inhale more and more passive.
- Swim the second round at about 75% effort. Support the increased effort purely by increasing the force with which you exhale. Your goal is to gradually feel that your more emphatic exhale, rather than more muscular effort, is providing all the energy needed to support your increased speed.
- Swim the third round faster yet, at perhaps 85% effort. On this round, increase the force of your exhale as needed, but this time put a bit more focus on finishing each exhale – just as your mouth clears the water, with about 20% more force. Feel as if you're blowing the water away from your mouth, making it easier to get your next breath. Continue to focus on a goal of inhaling passively. Certainly you'll gulp more air more quickly, but how completely can you make it occur purely as a result of emptying your lungs?

I suggest you repeat this set, or a variation on it at least once a week for several months. On subsequent repeats, experiment with adding additional elements to the set, including:

1. Do the first round with a controlled stroke count – call it "N." Swim the second round at N+1 SPL and the final round at N+2 to N+3.
2. Experiment with the amount of exhale you do through your nose, and how much through your mouth, with a goal of bubbling out through your nose for at least the first round and involving mouth-bubbles later in the set.
3. Don't pay attention to the clock the first few times you do these sets. After you sense an increased ability to change speeds mainly by exhaling more emphatically, then by adding strokes smoothly, you can check the clock to measure how much you can increase speed by either or the combination of both.