



## Breathing mechanics that will help your freestyle

**By Terry Laughlin**

For Active.com

May 30, 2006

Stanford (and USA Olympic team) Coach Richard Quick once said while giving a butterfly stroke clinic: "Don't hide your breathing mistakes by not breathing; fix them instead." That's good advice not only for butterfly, but for freestyle as well.

About 30 years ago, "hypoxic training" came into vogue. The idea was that by restricting breathing frequency -- breathing every five, seven or nine freestyle strokes -- swimmers might simulate the effects of high-altitude training at sea level.

Researchers long ago debunked the idea that breath-holding produces any physiological adaptation, but "hypoxic" sets are still popular, in part to help swimmers adjust to the discomfort produced when you reduce breathing frequency.

One reason for making that adjustment is the very real concern that in a sprint race, breathing can slow a swimmer down. If each breath might cost you slightly in stroke efficiency, the less of them you take, the faster you might go.

Holding your breath -- perhaps breathing only twice or less -- in a 50-yard freestyle undoubtedly helps your speed, particularly because that race is short enough that your muscles mainly consume oxygen already in your bloodstream.

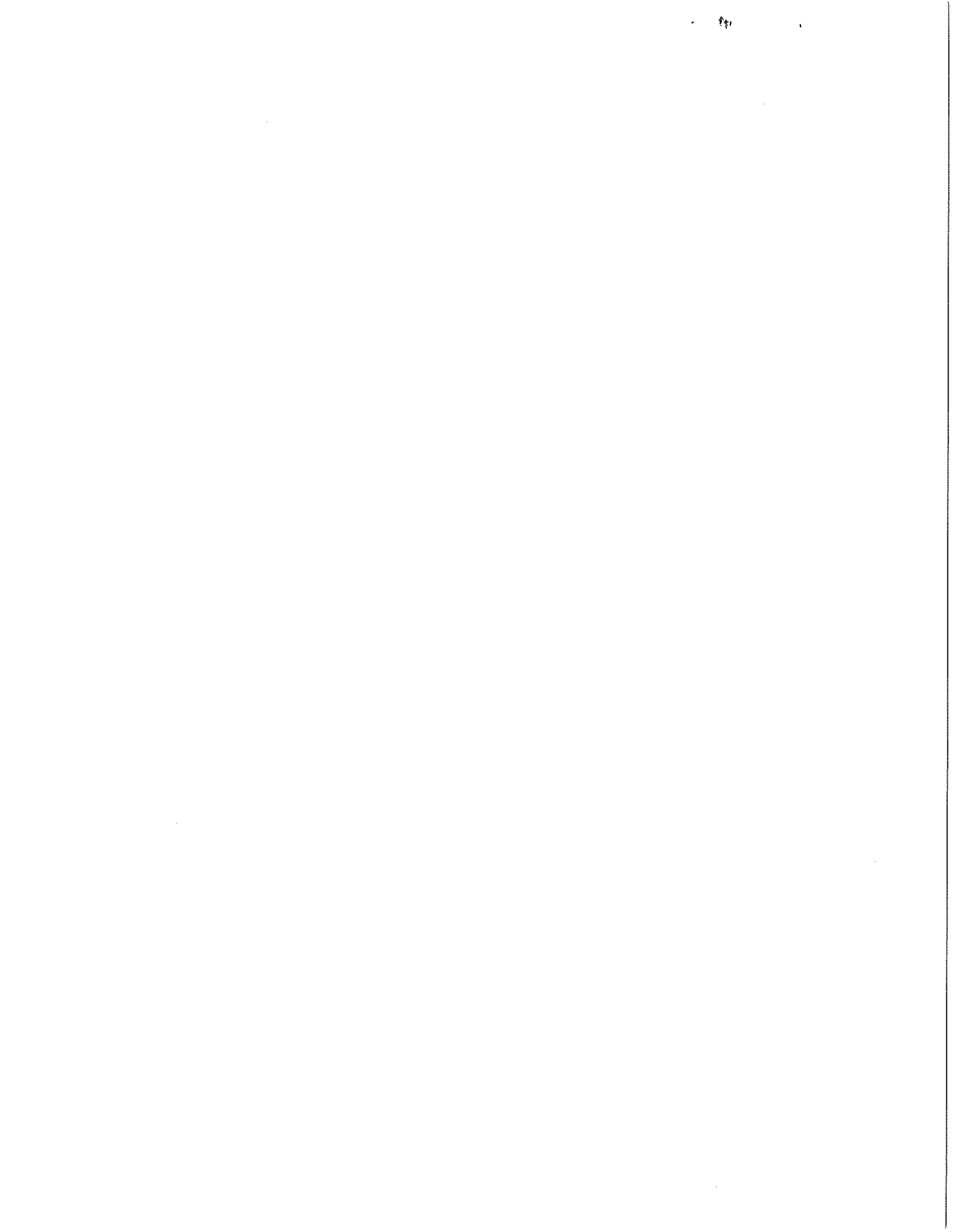
But when racing for, say, 45 seconds to over a minute, you need to get fresh oxygen to your muscles. Because of this holding your breath could restrict your ability to finish such races strongly. The ideal would be to be able to breathe as often as you want, without sacrificing any speed.

The key to maximizing both air and speed is to breathe as seamlessly as possible. Let's start with the mechanics of getting air into your lungs:

- Inhale through your mouth; exhale through your mouth 70 percent and nose 30 percent. Are these figures exact? No, just keep enough air pressure coming from your nose to keep the water out.
- Never hold your breath -- even if you'll swim three to five strokes between breaths. Begin exhaling as soon as you finish inhaling -- just exhale in a more controlled way if you'll take more strokes before your next breath.
- Exhale the final 20 percent of air more forcefully than the first 80 percent. This should make the inhale almost effortless by creating a *vacuum* in your lungs. It also helps clear the water away from your mouth for the next breath. Also, the force of your exhale should be proportionate to your effort. The next time you swim a descending set, experiment with consciously adding some force to your exhale as you go faster.

### Breathe efficiently

The second key to breathing with high frequency *and* high efficiency lies in how you roll to the side to take that



breath. Poor breathing mechanics can increase drag and reduce the effectiveness of your stroke, during the breath. Here are several ways to remain efficient while breathing:

1. Roll your whole body to the air. Rather than breathing with a head turn -- which is awkward and can cause muscle tension -- think of rolling your body to the air, as if you were going to breathe with your belly button. This will also help encourage core-body rotation, which is the source of your stroking power.
2. Stay *balanced* as you roll to the air. Lifting your head as you breathe will cause your hips and legs to sink, increasing drag and slowing you down. Consciously keep the crown of your head and forehead pressed to the surface as you roll to breathe.
3. Stay *aligned* as you roll to the air. Picture a line that runs from your toes, along your spine and out the top of your head as a laser beam. Keep that laser cutting straight ahead through the water as you breathe -- or think of slicing through the water like an arrow through the air, at all times but *especially* while breathing.
4. Stay *tall* as you roll to the air. Many swimmers lose the front end of their stroke on each breath. During each breath, focus on keeping the opposite hand stretched forward -- with fingertips angled down to hold an "armful of water" -- for just a moment longer during the breath. This timing will help connect that armstroke to the powerful rotation of your body in the other direction following the breath.
5. Drive the top hip down. After breathing, focus on driving that hip (i.e. the right hip after a right side breath and vice versa) down strongly. That will help you get all the power out of the extra rotation that occurs when you roll to breathe. If you do all of the above right, you can make each breath an asset to your stroke, not an interruption.

---

*Terry Laughlin is the founder of Total Immersion Swimming and author of Triathlon Swimming Made Easy. Read more of his articles at [www.totalimmersion.net](http://www.totalimmersion.net).*

---

Copyright © 2006 Active Network