



Ten Ways to Aqua-Dynamic Excellence

GET FASTER WITH FEWER INTERVALS AND BETTER STROKE TECHNIQUE

Race season is right around the corner and it's time to get in the pool and start grinding out grueling repetitions.

But wait, lung-sucking sets don't sound so appetizing this season? You're tired of exhausting yourself year after year without it having any effect on your speed or performances? Isn't there an alternative way to get faster?

Well, perhaps there is.

Almost everyone has toiled down the highway sometime in life with one hand out the window, feeling the force of the wind. If you keep your hand upright and pointed down the road, the wind rushes right by. Lose your aerodynamic position and expose more surface area than is optimal and your hand will be flung nearly perpendicular by the power of drag.

The same principle applies to swimming. Water is over 800 times denser than air, so there's a lot to be said for minimizing your surface area while swimming through water. Even still, few athletes devote enough time to refining their stroke with the intent of reducing drag. Instead, most triathletes swim harder in the hopes of muscling their way to faster times.

THE FUNDAMENTALS

How can you increase speed and improve performance without suffering gratuitous intervals and repetitions? First, focus on maintaining a body position through your entire stroke cycle that will minimize how much water you have to swim through. To do this, imagine swimming through a tiny hole where it's necessary to keep your body as streamlined as possible in order to fit.

Secondly, instead of a stronger or faster stroke or kick, use the strength of your hips to propel yourself forward. To understand the concept, imagine a proficient baseball batter or golfer—stroke power never comes from the arms but from the hips. The same is true of swimming. Focus on initiating your arm-stroke extension from your hips and drive your body on its side.

Finally, maximize your stroke length. By staying extended and focusing on pulling a few more inches, you'll remain on your side longer and expose less of your body surface to water resistance. This technique also helps swimmers travel further with less energy expenditure. By maximizing your stroke length, you'll also give your opposite recovery arm time to get cocked and poised before your extended arm begins to

pull, which results in a longer, narrower body position.

THE CHECKLIST

While it's preferable to get stroke feedback from a coach or, better yet, be videotaped, you can improve your stroke technique on your own by accessing your current efficiency in the water. Here are the 10 most important technique tips to keep in mind:

- 1.** Does your hip initiate the extension of your forward arm into the water? When your forward arm extends, your adjacent hip should snap downward and your bodyweight shift as your core drives your extended arm forward.
- 2.** Assess your hand entry. Your hand should enter slightly in front of your head, and your extended arm should follow in the same "hole" that your hand creates. If you find yourself slapping the water with both your hand and your elbow at the same time, chances are you're not letting the downward drop of your hip drive your arm extension.
- 3.** Assess the position of your fingers as they enter the water. All five digits should enter the water together in a neutral position to maximize critical forward glide and extension. If your hand enters with your thumb first and your palm pointed outward, you have to turn your hand underwater to initiate your pull, which places undue pressure on your shoulder.
- 4.** Assess the path and position of your recovery hand as it exits the water and extends. Practice dragging your fingertips slightly above the water's surface from your hip to

