GET A GRIP: Swim Faster by Making Your Hands Stand Still!

Most swimmers believe that stroke technique means "how you push water back with your hands," and give that motion most of their attention. Working on "technique" therefore means tweaking the armstroke, and "power" means putting more force and acceleration into it. Between what instinct suggests, and traditional instruction reinforces, the hands do seem to be 90% of swimming.

Most swimming books also share a keen fascination with hand movements, reporting in staggering detail on angle of attack, sweeps, pitches, vectors, lift forces, etc. The hands of gifted swimmers unquestionably *do* move in highly nuanced ways. But while that information may have academic interest, its practical value is nil. The movements described happen so quickly that no swimmer can consciously control the adjustments needed to get them just right. And elite swimmers don't get their wonderful technique from reading those books; they just do what *feels* best. And you can acquire a lot of that advantageous *feel* by following the advice in this article.

But understand this: Even if swimmers did have the concentration and precise muscular control to make the fine adjustments to get the hand pattern just right, at the end of the day it's still just a little hand pushing against *water* . . . trying to propel a big body through a resistant medium. Always minimize drag first.

Learn to "Anchor" Your Hands

Legendary swim technician Bill Boomer once said: "Your hips are the engine for swimming; your hands are just the propellers." And one of the surest ways to disconnect your propeller from its engine is overly aggressive stroking. A "controlled" stroke, one that stays connected to its power source through its full length, is one that begins with an "anchored" hand.

On land, the power-producing kinetic chain starts from a fixed (or "anchored") point – feet planted on the ground. You begin by twisting the body away from the intended direction of the movement – e.g., rearing back to throw a baseball or taking a backswing in golf. With the feet fixed in place, you get an effect known as elastic loading, similar to stretching a rubber band. The cocked hip then acts like a whip handle, throwing energy upward through torso, shoulders, and arms, with increasing speed and power.

With no foot-to-ground anchor, a swimmer's hips cannot act as a whip handle. But they can deliver power by working as a unit with the torso and arms. Still, the process must start with an anchoring point to create that fingers-to-toes band of engaged muscle we used to such dynamic effect on the playground swing. In fishlike swimming that power-linkage starts with an "anchored hand." While your instincts tell you to grab water and push it back *hard*, you can actually tap far more effortless power by extending your hand fully, and then just *holding on to your place in the water* — as if grasping a rung on a ladder —rather than hurriedly pushing back. Try to make your hand stand still, then let the kinetic chain roll you past the spot where your hand is anchored.

This was first observed in 1970, when famed Indiana University coach Doc Counsilman filmed swimming legend Mark Spitz, the world's greatest swimmer at the time, with an underwater camera. Attaching tiny lights to Spitz's hands to highlight their movements, Counsilman shot him from the side, against a gridlike backdrop. When he viewed the film at slow motion, Counsilman was startled to see that Spitz's hands exited the water *forward* of where they had entered. Spitz could not possibly be pushing his hands back if they came out ahead of their entry point. Nor could Jackie Hatherly, a 35-year-old Ironman qualifier from Toronto, who has developed one of the most "fishlike" strokes ever seen. When watching Jackie swim, it is obvious that her hands enter and exit at the same place, while her body slides sleekly past their anchoring point on each stroke.

Learn to "Feel the Water"

Training yourself to make your hand stand still rather than pushing it back seems odd, doesn't it? How can your body go in one direction unless your hand goes the other? Admittedly, the water doesn't offer a convenient grip. But when you develop an acute "feel of the water," you can use your grip on the water to move yourself forward very nearly as a rock climber uses his hold on the rock to move upward. Coaches often describe "feel of the water" as a prize with staggering value. They can't define it *exactly*, but suggest you must have been born with a gift for controlling elusive water molecules . . . or must spend millions of yards patiently acquiring this special knack.

There is no doubt that most elite swimmers have a variety of gifts that help them perform on a higher level, and "feel of the water" is likely the most important. But it's not difficult to explain. It's simply a heightened ability to sense minute differences in water pressure, and maximize that pressure with the body's propelling surfaces while minimizing it with the rest of the body. There is also no doubt that feel of the water *can* be an acquired skill. And it needn't take years to acquire. Here's how you can get a better grip on the ability to hold the water:

1. Get the catch right. Swimmers usually give about 90 percent of their technique focus to the armstroke, and by now you know I think that's a poor use of your brainpower, preferring you pay more attention to drag because that brings faster, better results. But, when you *do* focus on propelling actions (after you are balanced, long, straight and moving fluently), give 90% of *that* attention to the "catch." Focus on your hands while they're underwater in front of you . . . and once they've passed your shoulders, just let them fall off your mental radar screen. Once properly initiated, a stroke doesn't benefit from further guidance.
2. Start each stroke by making your hands stand still. Your instincts tell you to grab the water and push back. Ignore those instincts. Instead, teach yourself to make your hand stay in front while you roll your body past it. Yes, this is a difficult goal, but work at it patiently and mindfully anyway. Such efforts will help you resist the urge to muscle the water back.
3. Drill, drill, drill. Learning a skill as elusive and refined as this takes a *lot* of concentration, the kind you get in drills, where you repeat simple movements with full attention instead of trying to tweak something that happens in a millisecond in whole-stroke swimming.
4. Swim super slowly. Drills teach you how things will feel when they're "right." When you begin to apply what you've learned in drills, you'll retain far more of that feeling if you swim *verrry* slowly. The more slowly you swim, the more "concentration space" you give yourself to cultivate a finer sense of water pressure on the catch. Just be patient. Leave your hand out in front of you. S-t-r-e-t-c-h that moment, pressing gently on the water until you feel the water return some of that pressure to your hands. And while you're swimming slowly . . .
5. Count your strokes. A reduced stroke count is a simple, reliable indicator that you're not pushing back. If you've whittled your count for a single 25-yard pool length down to, say, 13 or fewer strokes, one of the things you're likely to be doing well is holding on to the water. As you go faster (and your stroke count increases) stay hyper-alert to any sense of water slippage, like a car spinning its wheels.
6. Try to have slow hands. Compare the speed at which you sense your hands moving back, with how fast you feel your body moving forward. Try to have "slow hands and a faster body" or, at the very least, match the speed of your hands to the speed of your body. This is a great corrective any time you feel your stroke getting rough and ragged.