

## TECH TIPS

### Streamlining

One of the hallmarks of top swimmers is their excellence in pushing off. For them every wall presents an opportunity to get further down the lane without having to swim. What's so great about that you ask? I'm here to swim after all, Well, some people have done studies on this sort of thing and generally speaking, the fastest swimmers in a race also frequently take the fewest strokes to complete the race. Now that your interest is piqued, how can you cut strokes from every lap? The easiest way, by far, is to push off and streamline like the pros do, every time.

Let's start with the push off. We'll skip the turn right before your push off since turns are not this month's subject. Regardless of foot orientation on the wall (which may change based upon the stroke), a good rule is to have your feet about shoulder width apart. As for the push, don't hold back! Imagine you are trying to jump as high as you can, but across the pool instead of up. The first day you do this your legs may tire quickly, However after a week or two, you will wonder why you weren't doing this sooner.

Now the streamline position. Try to make yourself as long and tall as possible. There is some discussion ongoing about what is the most streamlined arm and hand position. I'll include both. Option 1: Starting from the hands, extend your arms over your head with straight elbows, hold one hand over the other and wrap the thumb from your upper hand around the lower. Option 2: Hold both hands straight in front of you, the hands stay just less than shoulder width apart. If you opt for this technique, be vigilant that your arms remain straight, not at all bent. Now reach even further. Next is head positioning: keep your neck in a neutral-in line position. An easy benchmark for this: your shoulders should touch your ears and you should be seeing the bottom of the pool, NOT in front of you. Circle swimming and proper spacing will keep you from running into people. Moving down the body, keep your abdomen tight, slightly rock your hips forward, keep your legs straight and together, and feet pointed. Let your momentum from the push off carry you, and when you begin to feel a slight deceleration begin to kick. How you kick is up to you. Certainly you've seen lots of top swimmers doing dolphin kick off the wall to great effect and speed. If you can do this, by all means go for it. If your dolphin kick isn't quite so propulsive, don't worry, there's no rule that says you have to do this. There are even Olympians who don't do it because they are faster without it.

Now you have one last skill to remember. As you push off, don't come to the surface immediately. For most people, pushing off the wall straight gives them a nice, gradual rise to the surface. Doing this is more efficient than going too deep, or staying too shallow.

While improving your push off and stream line are relative easy, just think how much time you will save at all distances. In the longer races that many master's swimmers favor it, like the recently completed 3000, you did 119 turns. One extra yard per push off means 119 yards less to race!

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