
Swimming Drills – The Why and How

When swimmers join a masters' program, the majority of the time it is to become a better swimmer. There are those former high-school or collegiate swimmers who miss the pool and the fun of being on a swim squad, and others who just swim for exercise. But many also want to get better, however they define better. Some will get faster. Some will get more efficient. And others will develop incredible endurance.

As someone who has coached and watched swimmers for year, I firmly believe that the best way to get better in the water is to swim. So many swimming flaws go away when a swimmer has developed some swimming endurance and a level of confidence in the water.

But in order to get 'better', you need to break down what is currently preventing you from going faster (or from tiring out less) and chose one thing to work on. Sometimes fixing one thing fixes a few others. For instance, an athlete who has poor rotation may pick their head up to breathe, thereby throwing themselves off balance. A quick way to regain balance is to spread your legs wide (try doing a push-up with your legs together and one with your legs apart). But by scissoring the legs, the swimmer creates a tremendous amount of drag. So improving rotation and core strength will likely fix the high head and scissoring legs.



Once you break down your stroke and find the essence of the problem, you need to work on the correction over and over again until it becomes ingrained. This is where 'swim drills' come in.

There is a purpose to the drills beyond warming up and if done slowly and purposefully, can help you make a change for the better.

Whenever I put drills on the swim workout, people rush through them - either because they feel awkward or because they are eager to get to the Main Set. I think for many people the drills feel like a waste of time, and if I were to stand on deck to explain them, they'd be wasting even more time! Thus, this article on the 'how' and 'why' of swim drills.

It's important to have some swimming endurance so you get the full benefit of the drills. Asking a swimmer to do the Rhythm Drill (single arm freestyle) while they are struggling to breathe has little benefit. For those of you who don't know what you look like swimming – ask me! If you have been swimming with me during the past couple of years, chances are I have some video footage of you. If you don't know what you should be working on – ask me! I am happy to help you break down the stroke and give you some drills to focus on. So here are some of my favorite drills, and lessons on how to do them well.

REMEMBER: THE HALLMARK OF DOING A DRILL 'WELL', IS NOT THAT YOU CAN DO IT QUICKLY, IT'S THAT YOU CAN DO IT SLOWLY!

Kicking

Let's start with a drill that everyone over the age of 18 hates! I hear more excuses for not doing the kick set than I do for any other 'stroke'. And because everyone feels *slow* at kicking, they'd only consider doing a kick set if they are allowed to use fins. Here is why you should do it:

The legs make up between 25% and 32% of total body weight, depending on the amount of lean muscle. This is good news and bad news. If your legs drag in the water, you are dragging 1/3 of your body through weight the water. That's a considerable ball and chain. If, however, you are able to use your leg muscles to help propel you through the water, you will be faster. On the other hand, using big muscles uses a lot of oxygen, so you may tire faster. Unless, kicking becomes effortless.....

Elite swimmers often add up to 400 yards of kicking to their swim set. Per day. In fact I once saw a collegiate swim workout – the second workout of the day – that was 2000 yards of kicking!

Here is how to do it:

You would think it wouldn't need much explanation, but there are different ways to do a kick set. Kicking *without* a kickboard will allow you to perform your kick in the same body position of the stroke. Kicking *with* a kickboard actually makes it harder to keep your legs at the surface and forces you to arch your back slightly. This position will help you keep your legs at the surface, rather than sinking. Ideally you want to kick from the hips with your *toes pointed*. You should focus on having your legs at the surface. This will get easier to do, the more you kick.

Variations on kicking drills:

Tombstone drill: Kick with a kickboard as you normally would but when you hit the flags (or halfway down the pool) tip the kickboard so it is straight up like a tombstone. The bottom half of the kickboard should be in the water. This creates a lot of resistance, making your kick workout even more effective.

Hands to the sky: Kick on your back holding the kickboard in both hands at hip level. Halfway down the pool (or at some other interval) raise the kickboard towards the ceiling with both hands. You will immediately start to sink. Don't panic! Anticipate this and hold your breath. Remain relaxed and slowly lower the kickboard back to the starting position. NOTE: I'm not a fan of holding the kickboard behind your head. I've seen people do this when they kick on their back. I'm sure they are not doing it to create more resistance. I think they think it helps them float. But in reality, it's just an awkward position and is stressful on the shoulders.

Underwater Shooters: Holding on to the kickboard with your fingertips on the end of the board, take a deep breath and push off the wall diving underwater and kicking out as far as you can before you 'shoot' to the surface. When you get really good at this you will get some distance. Really good for strengthening legs.

For **backstrokers**, kick on one side with your head facing up in the position for backstroke and then rotate so you are kicking on the other side, all the while keeping your face up. You may also kick in a streamlined position with both hands over your head.

Breaststrokers, kick only with a soft kickboard that will allow you to maintain a good body position for breaststroke. Without a board, keep your hands extended, at your side. Try to maintain the same "dolphining" undulation when you kick as you should have when swimming the full stroke. You may also do breaststroke kick on your back.

Butterflyers, will do a dolphin kick either on your side, on your back, or in butterfly position. Kick from the hips and torso, not from the knees. This is a great "ab" workout.

Balance Drills:

Swimming is a dynamic motion that defies gravity in which the swimmer's balance is constantly shifting. When you think about it, so is walking upright. We've gotten good at walking through years of practice. But watch a baby taking their first steps and you will realize that they are constantly reacting to the change in balance that we take for granted.

Here's why you should do balance drills: In order for a swimmer to really get good at balancing, they need to constantly be challenging their balance. Having a strong core helps too. If a swimmer were to swim with a snorkel and thus not need to turn to breathe, they would seldom be thrown off balance. However, without a snorkel the swimmer must turn to breathe and every time he does, his balance shifts. If you can quickly find the optimal position in the water despite shifting balance, you are on your way to an efficient stroke. You don't need to splay your arms or legs to stay near the top of the water and you don't cross over in an attempt to pull yourself back into neutral. I like to use the following drills to either have the swimmer execute perfect balance and notice how that feels, or to challenge the swimmers balance so that they train their bodies to react quickly to the change. If you plan to do any open water swimming, you will have even more challenges to your balance, in the form of waves, tide, and the swimmers around you.

Hand-lead Drill

Kick on your side with your bottom arm (the one closer to the bottom of the pool) extended straight out of your shoulder line before your head. Keep your palm facing down and your extended hand about 8 inches under water. The top arm (the one on the surface of the water) should be relaxed at your side with your hand on your hip and out of the water. Maintain a head position as though you were swimming freestyle, with your head in line with your spine. Press your arm pit toward the pool bottom to get your hip at the surface of the water. Your extended arm should feel weightless. It's ok to do this with fins at first, but challenge yourself to try it without fins, or with one fin only. Don't try to move quickly through the water until you are in perfect position.

Variation: Do this drill in the same position, but turn your head to the bottom of the pool to exhale, and back towards the surface to inhale. *Your head should rotate but not lift!*

Head-lead drill

Head-lead is essentially the same as hand lead, but both arms are by your sides as if your hands were in pockets. Make sure you do both of these drills facing to the left and to the right. You will balance differently on each side of your body. You should spend more time working on your WEAK side.

Sinking Backstroke Drill

Obviously this drill is good for backstrokers, but I also like it as a balance drill. Kick on your back with your arms by your side. Slowly raise both arms so they are pointed towards the ceiling. At this point you will feel yourself sinking. Don't fight it! Relax, hold your breath and slowly move your arms into freestyle position. You will rise back to the surface when your arms are by your side or in freestyle. The more you do this drill the more you will 1) relax in anticipation of going under and 2) be able to regain your balance quickly.

Freestyle and Backstroke Drills

Freestyle and backstroke are referred to the **long-axis strokes**, as you are rotating on the long-axis of your body (head-to-toe) while swimming. In order to ensure that your body is rotating as if on a spit, SWIMMING POSTURE is critical. I have seen swimmers with great abs 'slouch' when they get in the water. Make sure your abs are engaged as you do these drills. Many of these same drills can be used for both strokes and/or combined into one drill.

Corkscrew Drill

This drill allows you to feel the similarity of the rotation of backstroke and freestyle. Alternate four strokes of backstroke with four strokes of freestyle. *Drive the rotation of your stroke with your hips.* Keep a light easy rhythm: don't muscle the water.

Streamline Corkscrew Drill (I invented this one!)

Start out in a tight streamline and kick face-down. Rotate to your side, then face-up, then the other side, then face down. *Take your time in each position.* REMAIN STREAMLINED WITH HANDS OVERHEAD THROUGHOUT THE TURN. ANYONE CAN DO THIS WHILE USING A HAND TO TURN! This will be really hard, especially going face down to face back up but the pay-off is a strong core and the ability to drive the rotation of your stroke with your hips.

6-1-6 Drill

This can be done for both Freestyle and Backstroke. Kick on your side – one arm extended, one arm by your side - for a count of 6 kicks (or 6 counts). Take one full arm stroke to rotate to your other side for another 6 kicks, and continue like this. *While on your side, focus on correct body position.* When executing the switch, begin by lifting the elbow of the arm by your side (top arm) and recovering it over the line of your body. The extended arm (bottom arm) stays extended to maintain a streamlined body position, until the elbow of the recovery arm has passed over your head. Then execute a quick switch to your opposite side. *Use core body muscles to rotate,* while maintaining a hold on the water with your bottom arm.

6-3-6 Drill

This is the same as the 6-1-6 Drill above, but you take three strokes as you switch from side to side. Focus on long strokes and quick hips in these three strokes, completely rotating from one side to the other. Maintain great body position while kicking on your side!

Freestyle Drills

High Swingers

This drill is used to loosen the shoulders, but I really like it for people who swim 'flat'. Many people who have a poor rotation have trouble clearing their arms from the water – especially on their non-breathing side. You can see a video of it by Googling “Dave Scott High Swingers”. Make sure you google the entire phrase or you won't get anything close to swimming!

In order to perform this drill correctly you have to rotate well. You should warm up before you do this drill. Then swim with a good rotation and exaggerated windmill motion of the arms. You might think you look ridiculous, but actually, watching this from the deck, some of my slower swimmers or those with poor form look better than they ever have!

Catch-Up Drill

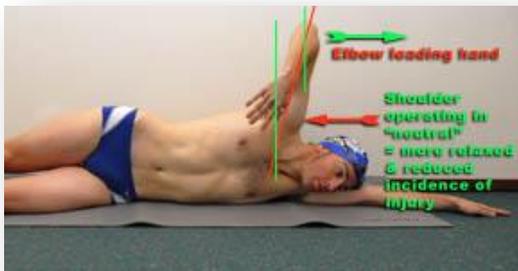
This drill is useful for a swimmer who drops his elbow, rushes the stroke or pushes down on the water with the lead arm – all of which result in a poor catch. A poor catch presses downwards on the water with a straight arm which does nothing for your propulsion but instead lifts your front end up.

When swimming *Full Catchup* freestyle, pull with one arm at a time and touch your hands in a streamlined position out front between each alternating arm stroke. Keep your extended hands about 8 inches under the surface of the water for improved body position. Concentrate on swimming in the front quadrant and keep a long, streamlined body line. I am not a huge fan of full catch-up because I think it can reinforce crossing over the midline (which is something you don't want to do).

Instead I prefer the "Almost Catch-Up" Drill, wherein you begin your pull as your opposite arm passes by your ear near the completion of the recovery.

Fingertip Drag Drill

I use this drill a lot, but I don't think people always know what it is for. First of all, you must rotate well to BOTH sides to do this correctly. Many swimmers rotate well to the side on which they breathe, but not on the non-breathing side. On the side with good rotation there is often high elbow and a good catch. On the other side (no rotation) the arm swings because it's awkward if not painful to swim with a high elbow if



you are not on your side. The swinging arm often leads to a cross-over on hand entry and a less-than-optimal pull. The secondary benefit of Fingertip Drag is that it puts your hand in proper position – fingers pointed down – to initiate the catch. You should be pushing water behind you, not straight down.

To do this drill well, rotate onto one side and s-l-o-w-l-y drag your fingertips along the surface of the water on the recovery. Make sure you do this on both sides, or you've defeated the purpose. This is one drill

that almost everyone does too fast! Start by going slowly and smoothly until it is perfect on both sides before you pick up the pace.

Open Water Swimming Drills

Rescue Swimming: Some also call this the Tarzan Drill because you swim with your head out of the water like Tarzan (or a crocodile!) so that you can see the buoys - or the swimmer you are rescuing. During the drill you actually swim with your head out of the water the entire way. You want to practice maintaining your body position with your head high (ironic, I know!). This translates into

Sighting Drill: Swim normal freestyle. On every 5th stroke, raise your head straight forward and "sight" on an object off in the distance. You can place a target object or sight something already in place, i.e.: a tree or the pace-clock. Do not breathe while looking forward. Separate the two actions by sighting forward and then immediately rolling your head to take a breath to the side as you lower your head back into normal position. Practice maintaining a balanced stroke rhythm and rotation while clearly seeing the target object.



Blind Swimming: Sometimes the water you are swimming in is dark, or murky. Other times it is so crowded that your visibility is limited. Swim normal freestyle with your eyes completely closed. On every 5th stroke, raise your head straight forward and "sight" on an object off in the distance (as above). Make sure you are maintaining a straight path down the pool. You can do this drill swimming side-by-side with your lane mates to reinforce swimming in a straight path.

Deep Water Starts: In many triathlons and open water swim races the swim is started from deep water with the swimmers treading water before the start. For a deep water start swim drill, you will tread water a number of minutes before initiating your swim. To really get the feel of a swim race, practice this with several people around you and race for position when the 'gun' goes off.

No-touch Turns: To practice the skill or turn around a buoy, you want to get good at changing directions without the benefit of pushing off a wall. Once again this is where balance and maneuverability come in. A strong kick helps, too, as you will use all these skills to get around the buoy faster than the other guy!