

Pair Your Drills by Chris Harrigan

It is no secret in swimming that technique is the most important factor in your performance in the water. Strength and endurance are both important, but a good or bad technique can trump both of them. This holds true all the way to the highest level of the sport. At the Olympics, the top 8 finishers typically use 10% less energy during their swim than the next 8 finishers in an event. One of the best ways to work on technique is drill work. For this article let's define drill work as anything that deviates from the technique you will use in a race. For every action there is a reaction, and this holds true with drill work as well. Anytime you deviate from perfect technique there is a tendency to start reinforcing bad habits that are ideal for the drill, but bad for your actual technique. The best way to combat this is to pair drills together that compliment each others' weaknesses.

The first example is catch-up drill. In this drill the swimmer leaves one hand (X) out in front of them, and doesn't initiate the pull with X hand until Y hand completes a full cycle and comes all the way out front and touches the X hand. The cycle repeats with Y hand in such a way that there is always at least one arm stretched out in front of you, and for a brief moment both hands are stretched out in front of you at the same time. Catch-up drill is one of the best drills for teaching swimmers to complete a full pull and to keep their bodies as stretched out as possible while they swim, yet at the same time it is teaching swimmers to swim with their bodies flat so they are not rotating through their stroke. The solution is to pair it with a drill that teaches swimmers to fully rotate their bodies such as fingertip drill (drag fingertips across the surface of the water for the entire arm recovery) or forcing the swimmer to breathe every single stroke (for each arm pull there is one breath). Ideally you would alternate these drills by 25, 50, or 100.

Another example involves one of the favorite drills of distance swimmers, especially triathletes, the pull buoy. In the same way that kicking with a kickboard isolates the legs, pull buoys can be a great tool to isolate the upper body while swimming, especially when paddles are also used. The main problem with pull buoys is that they train swimmers to rely on buoyancy coming from their hips while swimming. Whether you realize it or not, this is training you to press down with your hips while you swim, which is detrimental to your technique. This problem is even more pronounced with triathletes since their center of buoyancy is much further towards their legs than a pure swimmer. This is due to the increased muscle mass that runners and cyclists have relative to pure swimmers. If the lungs are the main source of buoyancy, adding more mass towards the legs pushes the center of buoyancy further away from the lungs which float and closer to the legs which sink. When your hips and legs sit lower than your torso while swimming you significantly increase your frontal surface area which greatly increases the forces you have to overcome while swimming. In a sense your body acts more like a plow than a sled through the water. One solution to this problem is to make a loop of an old inner-tube just big enough to get around both of your ankles and use that instead of a pull buoy when doing pull work. With the strap, you are still not kicking, but you do not have the buoy adding unnatural lift to your lower body. It will take some time to be able to swim with the strap, but once you master it your technique and body position in the water will dramatically improve.

The last example pertains to 200 meter and shorter events. Research has shown that swimming

against resistance (power tower, parachute, bungee cord) is more effective for training sprinters than lifting weights. The problem is that the technique that is best for swimming at the lower speeds is vastly different than the technique that is best for swimming at full speed. The solution is to alternate resistance swims with excessively low stroke count swims with fins on. This keeps the technique from drifting too far away from what is ideal at high speeds. For example alternate a 50 with a parachute with a 50 with fins plus super low stroke count, focusing on gliding effortlessly through the water.

In conclusion, anytime you deviate from what you are doing in a race there will be some sort of negative reaction. The key is to understand what that negative reaction is for each activity and take steps to minimize its effects, and one of the best ways to do that is to pair it with a drill that offsets the other drills deficiency.