

My Thoughts on Backstroke

by Dick Hannula

What works in backstroke?

Backstroke has had many rule changes in my more than 50 years of coaching. Technique and training emphasis have been the result of rule changes and the natural improvements innovated by coaches and swimmers.

The greatest addition to fast backstroke swimming was the introduction of the underwater dolphin or butterfly kick in the mid to late 1980's. This revolutionized backstroke swimming. The current rules limit underwater kicking to 15 meters off the start and turning walls. Short course swimming over 100 yards of backstroke then only requires that the swimmer be on the surface swimming 40% of the distance. 60% could be done underwater if the swimmer so chooses. This fact requires that any serious backstroke swimmer develop a very good underwater dolphin kick.

Coaches should utilize every good drill to develop this underwater kicking skill, and be on the lookout for effective new methods. The first skill that should be taught is torpedo streamlining. Teach this on the deck of the pool to your swimmers, and then have the swimmers teach it to each other. When a swimmer sees and hears instructions, they retain

only 50%. When they also teach the skill, they retain 95%.

I teach the skill on the deck of the pool by having the swimmers lie on their back and hyperextend their arms in the torpedo position. Hand over hand with the thumb of the lower hand gripped around the side of the upper hand. The arms should be pressed to the side of the head just behind the ears. I stand facing the feet of the swimmer behind the swimmer's head with my feet to the outside of the arms just above the elbows. I then work my heels inward forcing the swimmer's arms to come into a very tight streamlined position. I ask them to hold that position as I move to the side of the swimmer at the lower trunk level. Next the swimmer has to attempt to lower the small of the back to the floor. The objective is to keep me from pushing the front of my foot under the lower back. This is done by the swimmer tightening the buttocks and pulling the stomach inward. When the swimmer points the toes and holds this position, he or she has a true fully extended torpedo position. The back of the head, arms, and spine are lined up in a straight line. Swimmers then

can teach each other from then on in most situations.

The first drills that I used were in our diving well. It was 35 feet wide. We would start every season doing streamlined push offs until every team member could attain that distance without kicking or body movement -- streamlining only. The follow up drill was to add the dolphin kick to this underwater streamlining. We continued to do this fast short distance throughout the season almost daily. It was usually 3 to 5 sets of 8 X 35 feet on a very short rest send off allowing only about 5 seconds rest. Then we rested up to 45 seconds between sets. Each cross pool kicking drill was timed for speed.

The additional drills that I used were 25 yard monofin underwater kicking (the "shooter" by Finis is my favorite). Short swim fins can also be used. I also used vertical kicking in the development of the dolphin kick.

The technique tips that I believe are currently the best in fast backstroke swimming would include the following:

1. Steady head position. A fixed stable head.
2. Head back with eyes to the vertical (90 degrees) or with a slight chin tilt forward.
3. Rotate/rotate/rotate. The trunk rotates from the hips.
4. Use a "rifle barrel" recovery that is directly vertical over each shoulder.

5. Use a bent arm pull. This is actually an anchored arm that the swimmer is rotating past. It bends near the mid point to accelerate the push past the arm.
6. Little finger entry, and thumb first exit.
7. Medium depth catch and "anchor" the hand and arm on the water. In my opinion there has been too much emphasis on a deep catch. The depth of the catch has become too deep for too many swimmers. This too deep catch requires a large sweeping action bringing the hand near the surface again. This sweeping action slows the stroke rate and is less efficient than a more direct line arm pull.
8. A direct line arm pull is faster and more efficient than sweeps, especially the large sweeps that have been the result of deeper and deeper hand entries. In watching the underwater videos of the major championship meets, I noted that the best backstroke swimmers are making a medium depth catch to their own line of pull. The hand and arm then follow that direct line very closely. There is little or no sweeping. The trunk of the swimmer is pushed forward by the rotation of the body past the anchored arm.
9. The body is aligned and "skewered". Think "a steel rod through the center of the head down through the spine". The

swimmer is “skewered” and rotates from side to side on this aligned rod.

A steady six beat kick is best for the surface backstroke swimming. One very good point on the rotation of the trunk is to rotate to the highest point of the hips to clear the hand exit. Focus on rotating the hips out of the way of the hand exit and the swimmer’s timing will be correct. The chest should be out of the water and the hips high in the water in good backstroke. I recommend looking at your backstroke swimmers by bending over and looking under your armpit at the stroke. “Change the way you look at something, and the thing you are looking at will change.”

Which drills should you use in teaching backstroke? Use any and all that work would be my recommendation. I do have my favorites. I start with a basic arms at the side back flutter kick to establish a good head position for the swimmer. This drill is used as a beginner drill and has a short life. You can build on this by adding the trunk rotation every 6, 8, or 12 kicks. Next you can add a ½ arm recovery to each trunk rotation. These are still beginner drills.

The drills that I consider to be critical drills and are used throughout the swimming season are the following.

1. Arms extended in a streamlined torpedo position. On the surface, and under the surface.

Dolphin and flutter kicking with and without fins.

2. Kicking with one arm extended and one arm at the side. The extended arm with the little finger turned under so the palm is mainly facing downward. 12/12, 8/8, and or 6/6 kicks and changing sides. The body must be aligned. I want to emphasize that swimmers should swim up to 5 full fast strokes into and out of every wall during the kicking drills.
3. Touchdown to the side of each leg before the arm recovery into the next one arm stroke. Make a full stroke with one arm with the other arm remaining at the side until the stroking arm has been completed, then go to the opposite arm. Alternate arms. This drill is good in emphasizing the trunk rotation.
4. Touch and go. The swimmer recovers overhead at 90 degrees and holds that position until the other arm reaches that position. Touches then alternate the arms. This is a critical drill that can be used daily if needed. It emphasizes the vertical recovery, little finger entry, thumb exit, stroking depth entry, direct line pull, strong kick. In short just about everything in desirable technique. I use my hand’s paddles with most all my swimmers in this drill, and the gripper paddle for the mature swimmers.

5. Corkscrew swims. Swim 7/7, 5/5, or even 3/3. 7/7 would require 7 strokes crawl, 7 strokes backstroke, and continue this repetition. This drill is best done with hand paddles. The drill focuses on feeling the trunk/body moving past the arm on every change over.

6. Mirror swims. I kept a full length mirror at the end of the pool in the backstroke lane. Swimmers can check out some of the major recommended technique points by looking into the mirror as they swim away from that end of the pool.

Swim fins and paddles are recommended on many of the drills. Fins should be the shorter type of fin so that a fast kicking rate can be maintained.

Once the drills are learned, then some speed work should be incorporated into the drill work. For example: (1) 2 fast pulls, 6 fast kicks, 6 strokes touchdown drill; next round 3 fast pulls, 8 fast kicks, 6 strokes touch and go drill; next round 4 fast pulls, 10 fast kicks, 25 yards corkscrew drill. This could be repeated several times over, or you could continue to add to the number of pulls, kicks, etc. (2) 6 touch and go with paddles, 6 fast strokes with paddles; 8 touch and go, 8 fast strokes, etc.

Maximize the number of strokes with the minimum number drill. Swim 50's taking the time and the number of strokes. Add the two numbers for the minimum number. If the time was 30 seconds and the stroke count was 32 then $30 + 32 = 62$. Take 3 test 50's and the lowest number is your initial goal. Next attempt 20 X 50 on 60 at minimum number (in this example 62). When the swimmer can attain at least 16 at minimum number or better, then reduce the minimum number with another test.

Next begin to reach for the goal time for the second 50 of the 100 yard backstroke goal. If the second 50 goal is 27 seconds, then attempt to swim goal 50's in 27 seconds at as close to the stroke count of the minimum number drill as possible. Finally, use a stroke rate watch to determine the fastest stroke rate that the swimmer can maintain and still hit the second 50 goal time. This has to be balanced with stroke count. Stroke count, stroke rate, and goal segment time will all be incorporated for best results.

Specificity training would include swims at goal race pace out speed, and goal race pace back half speed. Break these swims as necessary to attain the goal, and get the feel of race pace speed.