

Essentials of Great Breaststroke, Leigh Nugent, (Australia)

Understanding the Stroke

Breaststroke has always been a difficult stroke for many of us to both understand and learn. There are a number of reasons for this but the main one by far is the fact that it bears little relationship to the strokes like freestyle and backstroke – the strokes that are generally taught first in Australia.

Unlike freestyle and backstroke, where the limbs work alternately, in breaststroke they work simultaneously and symmetrically. The motor skills required to swim the stroke are entirely different and, as a consequence, a whole new set of skills has to be taught from the beginning. We are all too ready to assume (parents included), because the child has learned freestyle and backstroke, that breaststroke will be something which will be learned quickly and effectively in a relatively few lessons.

More wrong we could not be – because for most it is a difficult and frustratingly slow process. For the person who is a natural breaststroker it all comes quite easy, but they usually have just had an arduous time learning freestyle and backstroke. People who turn their feet out naturally generally learn with little difficulty.

Breaststroke is swum with symmetrical movements of the arms and legs – no rotational or lateral movements of the torso and minimal movement of the head in the learning stages.

The start and finish of the stroke is considered to be when the arms and legs are fully extended so that the swimmer is in the classical streamlined position. I call this the **BASE POSITION**.

Breaststroke is a stroke where resistive forces against the body are greater than in any other stroke. Because of this, it is vital for the swimmer to be in the most streamlined position possible at any given point in the stroke. The ultimate aim in any stroke is to achieve maximum propulsion with minimal resistance.

The propulsive forces in breaststroke are high but intermittent – when compared to the other strokes – with propulsion coming from three sources...

1. The outward scull
2. The inward scull of the arms
3. The backward thrust from the leg kick

The recovery of both the arms and the legs are performed below the surface, hence incurring unavoidably high resistive forces. The other strokes avoid these resistances during the recovery of the arms, due to the fact that they are recovered over the water surface.

Once the base position is established, the stroke begins by the separation of the hands using straight arms with the hands pitched at 35-45 degrees to the horizontal (little fingers uppermost).

The arms continue to separate until they are each at about 45 degrees to the shoulder line. At this point the hands will have increased their pitch to about 60 degrees. This entire movement is termed the **OUTWARD SCULL**.

From this point, the arms pull backward momentarily and the pitch of the hands begins to alter as they change direction from an outward and backward direction to an inward and downward rotation to begin the **INWARD SCULL** – the most propulsive phase of the arm pull.

The first half of the inward scull is performed by rotating the hand and forearm inward from a stable elbow. The hand follows a curved path with the palm facing outward, downward and backward. Once the hand draws in line with the elbow, it also adducts towards the ribs, providing more speed and power to the hand and forearm as the last half of the inward scull is completed. During this phase the palm is pitched backward, downward and inward. During the inward scull, the fingers will always be pointing forward to some degree.

The hands complete the inward scull just forward of the chin and, with thumbs virtually touching, are projected forward, just below the surface until they are fully extended in the base position. It is recommended that throughout the recovery that the thumbs are next to each other and that the palms face downward.

The leg kick is probably the most difficult aspect of breaststroke to teach. The legs begin their movement from the base position, where they are fully extended with the toes pointed and the feet plantar flexed.

The recovery of the legs is commenced by relaxing the knees and lifting the feet toward the buttocks by **bending at the knee joint rather than at the hip**. This action will create less frontal resistance with the upper leg. As the feet are lifted, the knees drift apart to about the width of the hips. The feet are best kept close together, drifting apart as they draw closer to the buttocks. At this point the feet are dorsi-flexed and twisted so that the toes point outward. To achieve a good position at this point there is considerable rotation of the hip and flexion of the ankle. **Ideally, we would like to have the feet turned at 90 degrees to the direction of movement of the body**. This will give maximum exposure of the propelling limb to the water.

The feet are driven directly back and downward to some extent, until the legs are virtually straight. The feet remain dorsi-flexed as they are swept in rapidly together – a movement sometimes called the wip. To complete this final stage the feet are plantar-flexed, toes pointed and the legs fully extended.

Timing and coordination. If we take the stroke from the base position, the first movement is the outward scull of the arms – the rest of the body remains stable. The arms then make the transition into the inward scull. At this point the head and upper body begin to rise in preparation for the inhalation. In the final stages of the inward scull, inhalation occurs and the legs begin the recovery. By the time the hands have achieved 70% of their recovery, inhalation will have been completed and the feet will begin their backward thrust. There is a trend now to an accelerated hand recovery which effects a slightly later kick timing, but this is not recommended in the elementary stages of learning the stroke.

Once the kick is completed and the arms are fully extended, the body will again be in the streamlined base position from which point the next stroke will begin.

Breaststroke Teaching Progression

This method revolves around coordinating the kicking action with the breathing, and separately, the arm action in coordination with the breathing – then joining the two together to form the whole stroke. Because the breathing action is the common factor, and its timing has been taught with the arms and legs independently, there is no need to teach whole stroke timing – it occurs automatically when the two sections are put together as the whole. I am sure you will find this an easy way to teach a very difficult skill.

The Kick

1. Practice the kick and its movements on dry land.
2. Practice the kick on the edge of the pool in the water.
3. Kick on back with a board held to chest. Try to keep knees stable at the surface and draw feet to the buttocks by bending at the knee, not at the hip. Allow the swimmer to let their feet work in a wide arc, if necessary, as the main aim is to get their feet turned out. Once the swimmer has his/her feet ready to kick back, it is advisable to get them to pause at this point and consciously turn their feet out before kicking back, and pause again while the legs are fully extended.
4. Kick on front, holding the board on the back and with thumbs underneath and arms fully extended. Place face in water and proceed to do 3 kicks and then breathe. Stretch and glide after each kick. Keep the head very stable with the eyes looking to the front at all times. Rocking movements of the head are best avoided as they affect the body position and the swimmer can lose track of where their arms and legs are. A stable head helps maintain a reference point. The breathing is performed by raising and lowering the head as one unit.
5. Repeat Step 4 by doing 2 kicks and one breath.
6. One breath and one kick. Holding the board (as above) with eyes looking directly ahead and arms and legs fully extended. Ask the swimmer to lift their head and shoulders (by contracting their back muscles), then lift their feet, lower their head and shoulder, then kick and glide. Repeat this sequence over and over – stressing to the swimmer that the first movement in the sequence is the raising of the head and shoulders.

The Pull

Swimmers have a lot of difficulty with learning the pull because they achieve very little propulsion. This causes them to become frustrated and impatient. This causes difficulty in teaching the stroke as the swimmers modify the pull incorrectly, in order to gain propulsion. To avoid this temptation, the use of fins is employed to enable them to propel themselves while they develop the correct stroke mechanics. As the swimmers become more proficient, the fins are removed.

1. Using fins and freestyle kick swim, with arms extended and a small sculling action.
2. Repeat above with a larger action.
3. Swim freestyle, using a small breaststroke arm pull. Eyes looking to the front at all times and lifting the head and shoulders to breathe at the beginning of the inward scull. Hold a glide after the completion of each recovery, with the arms fully extended.
4. Repeat as in Step 3 until satisfied that the arm pull is the correct size and shape.
5. Repeat all of the above steps without fins. Regularly stress the correct breathing timing (lifting of the head and shoulders as the hands scull inwards). Exhale when the arms are extended, completing the exhalation before beginning the next stroke.
6. Repeat Step 5, replacing the freestyle kick with butterfly kick. Only perform one fly kick per stroke, which occurs when the hands are performing the last third of their recovery.

The Whole Stroke

By following the above progression, the swimmer has learned to kick and breathe with the correct timing and pull and breathe with the correct timing. All that remains to do now is to connect the two skills together and the timing should look after itself – as it has already been taught.

1. 3 kicks with arms extended and 1 pull. Breathe only on the full stroke. Glide after each kick and look straight ahead at all times.
2. 2 kicks with arms extended and 1 pull. Breathe only on the full stroke. Glide after each kick.
3. Normal breaststroke with a long glide – beginning the next stroke after exhalation has been completed.

The above three skills are important for consolidating the stroke. Try to develop power in the pull and the kick whilst still holding a glide in the stroke. By doing this, you will develop speed and strength without running the risk of losing the timing. Only when the swimmer is swimming strongly and correctly should the glide be reduced for faster swimming. Fast breaststroke swimming is achieved with minimum glide but with the maintenance of maximum arm and leg extension.

Teaching breaststroke is an exercise in patience ... but if you follow the process outlined above, you will find it an effective way to teaching breaststroke with good technique from the earliest stages.