

Breaststroke (Basic)

The following “Stroke Concepts”(Freestyle;Breaststroke;Butterfly; and Backstroke, are abbreviated and mostly taken from articles by Professor Boomer, University of Rochester, who is a biomechanics specialist.

There have been more arguments, theories, tears, disqualifications and nonsense involving this stroke than all of the other strokes put together.

Breaststroke and butterfly are known as short axis strokes; but breaststroke doesn't follow the similarities in force generation in butterfly or in the other strokes. Drag force produces very little to propulsive forces in breaststroke, it is mainly lift forces that generate propulsion.

In the short axis strokes there is what is called a landing zone; and the key for rhythm is in the landing zone. It is not in the up position at the top of the inscull, where many swimmers will have it. The timing is from the landing zone, back to the landing zone, and there must be no hesitation whatsoever at the top (highest body position) of the stroke.

In the forward lunge, you punt off the hips and use the upper body(shoulders) and head as a throw weight; the head, shoulders and arms must land on the landing zone (water) at exactly the same time; and the arms must be at full stretch, the timing here is critical. In the glide your ears must be between your arms (as in the push off from the wall) and look down, don't look forward.

At the end of the glide, the arms drift, (not pull) straight and not bent, to the widest point of the outswEEP.

Then the inscull; from the time the arms start the inscull until they are at full stretch at the landing zone, there is no hesitation or slowing up; this must be the fastest part of the stroke: do not let the hands get way down below the elbows(as in the old breaststroke), keep the hands shallow, the deepest part must be at the beginning of the inscull: and from there they come up towards the surface in a sculling movement with the hands pitched at about 40 degrees. With this sequence the hands and arms are already going forward before the end of the inscull: thus there is no delay or hesitation in getting the arms out fast. You want to get out to the landing zone as fast as possible

The fingers must be pointed forward, don't point them down at the pool bottom. A common mistake is to make a sort of loop at the end of the outswEEP when the inscull begins, which results in the hands pointing to the pool floor and slipping sideways through the water.

The forearms must be almost parallel with the pool floor at the inscull, and the elbows must come in well in front of the chest. Don't get your hands under your chin; your elbows will get stuck against your ribs.

At this point you will be taking a breath; there should not be time to breathe out and also to take a breath. Breathe out underwater on the inscull, so that as little time as possible is spent in the lift position and you can get back into the lunge quickly. There should not be enough time to breathe in and out.

The kick is still the whip-kick; the feet must be on the outside of the knees. If the knees remain stable, the feet will whip back in an arc and come together. Don't kick down, kick straight backwards.

When lifting the thighs for the kick, there should not be an angle at the hips. The body at this point is in the lift position, so the lower legs are brought up behind you, to

almost 90 degrees to the thighs which should be in line with the body (this is almost never quite achieved) Always recover the legs after the glide as quickly as possible, and get the kick away, do not recover the legs slowly, even in kicking practice.

The timing of the stroke is critical. In breaststroke you punt off your hips, lunge to the landing zone and kick at the same time, then glide, which is the fastest part of the stroke

There is some difference of opinion of exactly when the kick is put in. As an afterburner to the lunge (Prof Boomer). But I believe that you should put your kick in as you lunge. If you try to do that it will happen only very slightly later, and that will be just right. If the kick comes too late, the forces responsible for momentum are not combined and continuous - rhythm suffers. I believe that this is the worst mistake.

A few points to remember :

- From the start of the inscull it should be one continuous fast movement back to the landing zone.
- Blow out under the water before you come up for the lunge, there shouldn't be time to breathe in and out in the up position.
- The upper body must always be going forward. Lift forwards and upwards, don't simply come up out of the water.
- The faster you get your arms out in the lunge, the faster will be your turnover. The only way to accelerate breaststroke is to increase the speed that your arms shoot out forwards.
- Recover your legs quickly. In kicking drills, rather rest your legs in the straight position, never recover slowly.
- Get your ears between your arms in the glide, and, never, never dive down at the lunge; go out straight. Your body will sink to the correct depth on its own.
- Kick straight backwards, don't kick down and let your butt rise.
- Don't start lifting your head on the outscull, wait until you begin the inscull and let it come up with your shoulders.