Swimming Breaststroke Checklist
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Glide:
- The feet come together, with the hips and knees fully extended. The legs may not be closed tightly but kick may finish with the legs still shoulder width apart. There is very little propulsion available from the last few degrees of adduction of the legs. This leg position produces a streamlined position leading into the glide.
- The legs should be in line with the trunk, and remain streamlined until the end of the catch and downsweep. This produces a streamlined position during the propulsive phase of the arms.
- Swimmer must try to remain horizontal during the glide, with the arms extended directly forward and the legs horizontal and pointed directly backwards.
- The hands may not be kept together but shoulder width apart, which means the arms point directly forward. Palms face downward.

![Glide Image](image)

Figure 1. Hips and knees are fully extended creating a streamlined position minimizing drag resistance. This position should be held briefly. This swimmer may have her feet too low in the water at this point in the stroke.

Arm Stroke:

Outsweep:
- Begins after legs are fully extended at the end of the kick.
- Arms sweep directly outward as shoulders medially rotate and adduct. Arms should remain straight until water pressure causes the arms to flex. Body remains completely horizontal. Position will resemble a Y shape with arms pointing out at 11:00 and 1:00.
- Palms pitched out and back.
- The hands should be pitched outward nearly 90 degrees from a prone position. The backward pitch should be at an angle of between 30 degrees and 40 degrees relative to the forward direction.
- Upper arms should be parallel to water surface, and shoulders medially rotated to allow pull to be directed straight back.
Figure 2. Outswep: the elbows extend and shoulders adduct.

Figure 3. Outswep: hands face outward and slightly backward. Head is in neutral position.

Catch and Downsweep:
- The catch is executed through elbow flexion and further shoulder medial rotation. Upper arms and elbows are kept high in this position for a more effective pull.
- Hand position changes from outward to downward, with palms pitching downward slightly.
- The hands should remain pitched outward and downward throughout the downsweep. The outward and downward angles of attack should be between 30 and 40 degrees to their respective directions of motion. The downward and outward speed of the hands should be accelerated from the beginning to the end of the downsweep.
- Elbows begin to flex, with upper arms remaining parallel to water surface.
- Legs are still in streamlined position.
- During the downward push, the head and shoulders will be pushed upward and forward out of the water.
Figure 4. Shoulders are medially rotated to engage the Latissimus dorsi muscles. During this time, the elbows reach approximately 100-degrees of flexion while upper arms stay parallel to the water surface. During elbow flexion, the swimmer is able to push more water backwards, increasing forward propulsion.

Figure 5. Downsweep. Elbows flexed, hands pushing down and back which tends to lift the head.
Insweep:
Hands continue to circle to face downward and inward, becoming inward and upward.
-Athlete should reach approximately 100-degrees of elbow flexion, with maximal medial rotation of the shoulder to allow greatest surface area to push back on the water.
-Elbows should remain parallel to water surface.
-Hands pass under the elbows, as the elbows flex maximally.
-As the hands begin to move upward, the hips drop, initiating hip and knee flexion.

Recovery:
-Hands come together with palms facing each other.
-Hands can reach maximum height of just below, at, or just above water surface, but should be kept close to surface to allow faster extension.
-During this time the head and shoulders will reach peak height. Height should be minimized by forward lean, leaving just the head and the shoulders above the water. This will minimize drag created. Increased speed of recovery is also permitted with a smaller displacement.
-Elbows should be squeezed close to the body, reducing drag, and shoulders should be adducted.
-Knees and hips should reach full flexion in their recovery at this time.
-Palms are turned down, as the elbows begin to extend and the head and shoulders return to the water.
-Legs begin to sweep outward, as the arms reach forward, propelling the swimmer forward.
Figure 7. This is the end of insweep. The elbows follow the hand movement and squeeze the ribs as the insweep is completed. Note hand position. There is a controversy about the upward hand position. Someone believe it is nothing more than a follow-through action. They believe that because of the changing hands pitch from inward to upward, the hands will continue their motion. But others believe this upward hand position will help the head drive forcefully downward into the water due to the reaction of drag force.

Figure 8. Swimmer reaches max height as the hands come together in front of the chest. Max height leaves the swimmer with his/her shoulders above the surface, and shoulders retracted. Swimmer dives forward, initiated with rounding of the shoulders. This allows a smooth entry with minimal drag produced by splash.

**Leg Stroke:**

**Recovery:**
- As the arms sweep upward and inward during the insweep, the athlete begins recovery of the legs by flexing at the hips and knees. The leg recovery begins as the arms complete the insweep
- Hips should flex until the knees are pointing straight down. This creates a large range of motion for the legs to produce force, as well as creating a stretch in the gluteal muscles. Knees should also be flexed maximally to as close to 30-degrees as possible.
- Hips should be abducted to shoulder width to allow a longer outsweep, while minimizing drag under the water. A wider leg position is often seen, but will increase drag to a greater extent.
- At the end of the recovery, feet should dorsiflex and evert. The lower legs just hide behind the upper legs.

![Figure 8. Knees and hips should be maximally flexed, with the knees pointing straight down to allow a large range of motion for the kick. Ankles are dorsiflexed and lower legs are laterally rotated at the knees so the feet point sideways.](image)

![Figure 9. Leg recovery: legs maximally flexed with lower leg lateral rotation and foot eversion.](image)

**Trunk and Head Position:**

The trunk and head remain submerged under the water for the glide phase and the first part of the arm pull. The trunk remains flat and in line with the head.
- The head starts to rise out of the water for a breath as the arms pull back towards the shoulders; as the arms approach the level of the head, the head starts to rise out of the water.
As the arms are pushing down and inwards at the end of the arm stroke, the head and shoulders rise out of the water, reaching their highest level as the hands reach the midline of the body at the end of the stroke.
The height that the head reaches out of the water is dependent on the style of breast stroke used (undulating style or the traditional style), but usually the head and shoulders rise out of the water.
The head and shoulders remain out of the water as the hands are brought together and thrust forward to begin the next arm stroke.
As the arms are extended forward in front of the body the head and shoulders drop back down into the water- this entry should use a diving technique in which the neck is flexed and the head enters the water face first much like a dive.
The re-entry should be performed with a minimal splash to decrease wave drag.

**Leg Stroke:**
The leg kick used in the breast stroke is the whip kick, in which the legs are spread apart, flexed at the hip and knee, then whipped back together while extending. As the legs are ready to push the water back and extend, the lower legs are laterally rotated so that the feet point out to the side. This foot position allows the swimmer to engage the water with the insides of the feet and ankles, and forcefully push this water backwards and inwards to create propulsion forward down the pool. The force producing movements of the legs include hip and knee medial rotation, and hip and knee extension.

**Outsweep:**
- The lower legs should be laterally rotated at the knees once the knees and hips are maximally flexed, so the toes are pointing out to create a large surface to push on the water. Ankles should be fully dorsiflexed.
- From this fully cocked position, the legs start to sweep out and back forcefully.
- The initial leg movement consists of knee extension and hip extension, as well as medial rotation at the knees and lateral rotation at the hips, and as the knees approach full extension the thighs are forcefully adducted to bring the feet together.
- The feet move from pointing outward to pointing downward during their movement together at the end of the kick.
- The arms should be approaching full extension as the legs begin outsweep, and the trunk should be flat, producing a streamlined position.
- Notice, the elite swimmers don't have hip abduction through the outsweep. In other words, the thighs should still pointing backward and not pointing sideways.
Figure 10. Hips abducted to slightly past hip width allowing large range of motion, but controlling surface drag. Lateral rotation of the knee leaves toes pointed out, creating a larger surface to push back onto the water.

**Downsweep:**
- While the legs are at their widest point, the feet are rotated in so the toes are now point downward slightly.
- Knees and hips should start to extend, creating a circular path.
- The feet move in a circular pathway from full knee flexion to full knee extension, while the hips are extending and adduction and the knees and hips are medially rotating.
- The feet should remain dorsiflexed during downsweep.

Figure 11. Notice the swimmer has not abducted her hips through the outsweep but merely laterally rotated her hips and extended her hips and knees.

**Insweep:**
- Knees and hips should be fully extended by this point to ensure a full range of motion.
- Legs continue to adduct inward, bringing the feet together.
- The feet should be pitched inward as much as possible during insweep. This movement is produced by continued eversion of the feet and lateral rotation of the hips.
- After the legs insweep, some swimmers extend their hips upward which is similar to a upward dolphin kick. This movement will provide additional propulsion. Also, it helps line up the whole body to a streamlined position.