Breaststroke Kick

Breaststroke can be a frustrating stroke to teach and develop because “Breaststrokers are born, not made”. Let’s examine this statement for a moment. A cursory look at most talented breaststrokers will show that they walk with their feet turned out (duck footed or, like a ballet dancer). This gives them a natural advantage over those who don’t, since their feet are well positioned to turn out during the propulsive phase of the kick. Conversely, those whose feet turn inward or are (pigeon-toed) are generally better suited to Freestyle, Backstroke or Butterfly as a relaxed foot which turns inward generates greater propulsion on both flutter and fly kick.

This means the teacher is more prone to having difficulty teaching the duck footed swimmer a solid flutter or fly kick. In fact, past experience has shown that establishing a solid flutter kick first in duck-footed swimmers will enable them to grasp flutter kick better, than if they are taught Breaststroke first. Those permitted to learn their Breaststroke kick early will often display habitual crab like movements in their flutter kick whereby one foot may turn out in a quasi screw kick. This becomes extremely difficult to correct and can be done so by only the most patient, persistent or experienced teacher/coach, since the swimmer will feel greater power generated by a backward thrusting foot than by the correct downbeat of the flutter kick.

The pigeon toed person will similarly often find it very difficult to turn the feet in the required position to get adequate drive from the Breaststroke kick. Sometimes this is due to a lack of flexibility and can be improved through stretching. The pigeon toed swimmer will benefit from early exposure to Breaststroke where, at a young age and usually with small classes, the teacher through repetition and manipulation will have better success at developing a solid kick. Children’s ankles are also more flexible at an earlier age.

Either way, both types will need plenty of help with their body awareness, specifically, foot awareness. They usually find it difficult to feel or sense the position of their foot or the direction in which it is pointing. The wise teacher/coach then will do plenty of dry land and water work that incorporates manipulation with sensory feedback. Drills should include the teacher asking the swimmer for responses to such questions as “How (or what) did you feel?”; “Where did you feel it?”; “What was it like?” etc…

Within our Learn to Swim programme, we have made a conscious decision to focus on establishing flutter kick first with a gradual introduction to Breaststroke later on. None-the-less, whilst naturally pigeon toed swimmers may never make world champion Breaststrokers (and ALWAYS remember there are exceptions to this truism), they can be improved significantly. Because our Squad programme is Medley based, we want ALL swimmers to develop a solid Breaststroke in order to have greater versatility as a competitor (Many top swimmers have changed their focus throughout the course of their careers either due to boredom or injury, or to simply add variety to their training. A distance swimmer as an age grouper may become a sprinter as a mature athlete (Alex Popov); a Backstroker may switch to Freestyle or even Butterfly (Matt Welsh); A Breaststroker may turn to Medleys (Brooke Hansen).) Training all strokes not only adds variety and interest to a programme, but can relieve tired muscles and prevent or reduce injuries.

At all levels check that the basics are in place before progression to extension work. The basics will include

♦ Being able to streamline correctly and with head well down between stroke cycles (known as the ‘glide phase’)
♦ Having a symmetrical kick that produces forward thrust
♦ Pulling with small circular movements, hands kept forward of the shoulders throughout, and
♦ Breathing at the widest part of the arm pull and insweep
All of the above need to fit into a co-ordinated whole with timing in place. Many swimmers have slight timing errors, which cause their stroke to appear disjointed.
Improving the Basics

In Intermediate, Inter-Adv and Advanced classes you should ensure ever swimmer can perform the basics prior to stroke refinement. If they have come through the H2O Learn to Swim Programme we would expect this would already be well developed. However, for whatever reason, some kids may be promoted prematurely, be fast tracked, have come from other swim schools OR have simply slipped through the cracks.

Streamlining has been covered in detail elsewhere so let’s turn our attention to developing a symmetrical kick.

BUILDING A SYMMETRICAL KICK:

Swimmers with a screw kick or asymmetrical kick generally aren’t in tune with their bodies enough to feel what, if anything, they are doing incorrectly. Swimmers with poor flexibility or those who are naturally pigeon-toed, are most likely to display an irregular kick and are better off learning a simple wedge shaped kick first, which is refined over time into a whip kick.

Let’s look at the ability of the foot to rotate in circular motions, since ankle flexibility will largely determine the ability of the swimmer. If you are seated on the floor with your legs extended (calves and heels on the ground) the swimmer should be able to pull the toes back toward his body causing a corresponding stretch of the calf and Achilles tendon. This position is known as dorsiflexion. Conversely, the ability to flex the toes and point them downward toward the ground is known as plantar flexion. The feet must also be able to invert which is the ability to press the soles of the feet together whilst keeping the legs straight. Lastly, they need to be able to evert, or, turn so the soles of the feet face outward. For young swimmers we use the terms ‘hooking’ the feet for dorsiflexion and ‘pointing’ the toes for plantar flexion since they seem to understand this better. Similarly telling them to turn their feet either inward or outward is simpler and more effective than using the correct terminology of eversion and inversion.

Start by giving some simple dry land exercises that can also be practised at home. Check all 4 movements of turning the feet by

1. hooking (toes up to the ceiling)
2. pointing (toes try to touch the ground or point straight ahead)
3. inward (soles of the feet aim to press together)
4. outward (soles of the feet turn outward)

This should all be performed with the legs straight. The inflexible swimmer will attempt to get the feet positioned by bending their knees.

If this is the case, a stretching regime can be implemented. One of the best stretches is to place the balls of the foot on a step, dropping the heel lower than the toes as shown in the illustration.

The foot also requires the ability to combine dorsiflexion with eversion (hooking and turning out), and plantar flexion with inversion (pointing and turning in).
The wedge kick

Essentially, the feet draw triangles with a wedge kick. The feet are lifted up to the buttocks and then kick outward to full extension before closing. As the feet lift, they tend to separate and hook. The knees may stay wider than the feet throughout the kick. In order to perform this movement, the knees either drop down and under the body, or lift out sideways, bending at both the hip and knee to almost 90°. Propulsion is gained by the direct backward thrust of the sole of the foot against the water, with most power coming from the start of the back thrust when the feet are closest to the buttocks, thus engaging the powerful thigh muscles.

This type of kick can be very effective for the learner, but has large resistive forces due to the excessive knee and hip bend. It also has a smaller surface area (the sole of the foot) creating the propulsion.

The Whip Kick

The whip kick on the other hand, minimises resistance by keeping the knees narrow and the feet rotating in circles around the knee. The feet remain tightly closed (big toes together and feet pointed) throughout the recovery (see right). This minimises resistance by keeping the feet inside the line of the knees as they lift toward the buttocks.

In the whip kick, the feet rotate (wider than the knees) and kick around until they snap shut. The feet accelerate throughout the kick finishing with the soles of the feet together as if they are ‘clapping’ shut. Care must be taken that they don’t ‘bounce’ apart at the completion of the kick, but rather hold together throughout the ensuing glide and recovery as shown above.

The knees remain narrow throughout the kick, turning inward and staying within the line of the body.

The whip kick when combined with the wave action style of Breaststroke, enables the swimmer to minimise the hip angle during the leg recovery. Performed well, the angle could potentially remain at 180° providing an easy curve for the water to flow around.
arm action to compensate must lift the swimmer higher out of the water, or their feet will break the surface. The added height enables the swimmer to ‘surf’ down the bow wave taking additional momentum into the following streamline. This takes considerably more energy than the lower flatter style. Wave action Breaststroke can therefore be likened to Butterfly in that it is more of a power stroke.

The whip kick is suited to the natural Breaststroker with good flexibility, and is taught as a refinement in our squad programme. It is probably NOT appropriate to teach it in our Learn to Swim Classes as we believe in teaching the gross motor movements and getting them correct first.

The main problems you are likely to encounter with a screw kick are;

- Either one or both feet point, thus giving more of a downbeat (pressure is applied by the top of the foot) rather than a kick backward.
- This may or may not be linked to the position of the knees. The swimmer may have one knee turned inward and dropped downward, while the other turns up and out. If the feet are still both dorsiflexed correctly then another way of looking at this is that one knee is doing a wedge kick (up and out) while the other is doing a whip kick (down and in). If however, one foot is pointing and the knee is turned inward, whilst the other is hooking with the knee turned outward, this is in effect a sidestroke kick. From a teaching perspective, this is one reason why we DON’T teach sidestroke until the swimmer has developed a solid symmetrical Breaststroke kick first.

Past experience has proven that it is easier to correct these swimmers by going back to a wedge kick. The swimmer will have greater success initially and still be legal if they are racing.

The teacher needs to increase the swimmer’s body awareness or kinesiology. In other words they need to get their mind connected to their legs and feet. Visual descriptions, accurate demonstrations, use of diagrams and pictures, and clever use of similes and metaphors will help to engage the swimmer’s mind and ‘paint’ a picture of the movement. Remember we are after a gross motor movement first which can be refined down later. Kids enjoy the images of a ‘frog’ kick and girls especially can relate to images and dry land drills that mimic ballet dancers practicing at the bar. E.g. likening the kick to squat jump with feet turned out.

The teacher has a number of options to work through to make corrections

1. Describe and demonstrate what is incorrect about the swimmers movement, and also describe what they need to do to correct it.

2. Take them through a dry land simulation (eg lie them on top of a kickboard on a block or at the end of a bench) and get them to feel both what they are doing incorrectly and compare it with the correct movement and how that feels. Get them to describe to you how it feels.

3. If necessary get them to sit on the ground and draw circles with their heels (toes turned up to the sky throughout).
4. Once the have the rudiments in place on land have them repeat the process sitting on the edge of the pool.

5. Get them doing it on their back in the water hugging a kickboard. Get them to watch their feet and to see that their toes are pointing up to the roof throughout the entire movement. The coach should walk alongside and talk them through each kick and give them direct feedback as they perform each kick.

6. Similarly, have the swimmer kick on their front next to the wall with the coach walking beside them. Talk them through each kick using cue words and giving feedback on every kick. That way, they will gradually come to associate the correct movement and the way it feels, and be able to start to differentiate between the incorrect feeling and the correct feeling.

7. The coach could get in the water and physically manipulate the swimmers feet. This could be done with the swimmer either holding the wall or on a kickboard.

8. Lastly, the coach can get the swimmer out on land and have him simulate one leg kicking whilst standing close to the wall. The knee should lift and touch the wall and as the foot ‘kicks’ backward, he should scrape the sole of the foot against the wall throughout the movement.

9. Once he can do this to your satisfaction, have him repeat the exercise in the water, then, repeat kicking very close to the wall on a kickboard, try to do the same thing so he can feel which parts of his foot and knee are connecting. Have him ‘kick’ the wall with one leg on the way down and the other leg on the way back and give oral feedback on every kick. (Both feet are kicking, but only one foot connects with the wall.) Often a simple ‘yes’ or ‘no’ will be all that’s needed.