

2, 4 or 6 Beat Kick



freestyle kick

A description of the kicking technique used when swimming freestyle. 6 beat is the traditional flutter kick and uses 6 kicks per complete arm cycle. This is used by most swimmers and triathletes. A 2 beat kick is 2 kicks per complete arm cycle and is often used by expert distance swimmers and triathletes to reduce the oxygen uptake from their legs.

Bilateral Breathing



breathing

Breathing to both sides, in any pattern. A good technique to keep your stroke symmetrical.

Body Position



good body position

How high / horizontal your body sits in the water as you swim. A high body position close to the surface is good. A bad body position normally means your legs and hips are well beneath the surface creating lots of drag.

Body Rotation (=Body Roll)

Kicking from side and rear.

Body Roll

The rotation of your body along your 'long axis' or spine as you swim. Aim for approximately 45-60°.

Bow Wave



bow wave by head

A bow wave is created by your body when you swim, this drops the level of the surface of the water as it passes your head, creating what we call a trough. You can breathe into that trough without lifting your head as much as you might think.

Breaststroke (Frog stroke)



A swimming style in which the swimmer is on their chest and the torso does not rotate. It is the most popular recreational style due to the swimmer's head being out of the water a large portion of the time, and that it can be swum comfortably at slow speeds. In most swimming classes, beginners learn either the breaststroke or the front crawl first. However, at the competitive level, swimming breaststroke

at speed requires comparable endurance and strength to other strokes. Some people refer to breaststroke as the "frog" stroke, as the arms and legs move somewhat like a frog swimming in the water. The stroke itself is the slowest of any competitive strokes and is thought to be the oldest of all swimming strokes

Catch



the catch

The catch is the start of the arm stroke at the very front when you start to grip the water and move your hand and arm backwards. The catch is traditionally a mystical concept which even good swimmers find hard to master. Work on your catch when you are a good intermediate or advanced swimmer.

Catch Up Drill



catch-up at front

A drill where one arm is held fully forwards until the other arm has performed a complete stroke and returned to the front. At Swim Smooth we only recommend this drill during the early stages of learning freestyle timing. After that it encourages poor body rotation.

CSS



CSS = threshold

'Critical Swim Speed', a pace of swimming that is estimated to be your lactate threshold pace. CSS is found by performing two short time trial swims and is normally described as pace per 100m.

Swimming pace sets at CSS are excellent for your fitness.

Dolphin Kick



dolphin kick

A kick used in the fly stroke where both legs kick in time together. Often employed by advanced freestyle swimmers whilst performing a torpedo kick off the wall.

Drafting



stay close behind

Swimming behind or behind and slightly to the side of another swimmer. Because you are in the other swimmer's wake, this reduces effort by 18-25%.

Drag



kicking can create drag

How much friction you create in the water whilst you swim. Fast swimmers have low drag and high levels of propulsion. The biggest causes of drag are poor body position and poor kicking technique.

Drills



drill every time you swim

Exercises normally performed in the water to practice an aspect of the swimming stroke. These often use fins (flippers) to give additional support and propulsion.

An example drill is kicking on your side with one arm out in front of you to become familiar with rotating your body in the water.

Drills are often performed after or as part of the warm up in a swimming session.

Economy (=efficiency)



a long stroke can be efficient

How much effort you require to swim at a given speed. With more economy and efficiency you will swim faster for the same effort.

Extension



the extension

The part of your stroke where the hand extends forward after entry into the water.

Feel For The Water



feeling the water

Your ability to catch and pull the water to propel yourself forwards. Most swimmers find this a mysterious concept but know if their feel for the water has deteriorated as they feel the propulsive forces have dropped.

Fly (abv. of butterfly)



Fly

The fly stroke is a symmetrical stroke with both arms carried over the water on recovery. The stroke uses a dolphin kick (both legs kicking as one together). Fly is challenging and normally only attempted by good intermediate and advanced swimmers. It has benefits for your core conditioning. In competition, the stroke is limited to sprint distances.

Freestyle (abv. Free) (UK: front-crawl)



The fastest stroke in swimming.

Freestyle is the fastest swimming stroke of all. It is used in open water and triathlon swimming. Strictly speaking, freestyle means there are no restrictions on the stroke, so the fastest possible technique is used. The resultant stroke has evolved to be alternate arm strokes using body roll to aid propulsion with one arm while simultaneously aiding recovery of the other. An alternate 'flutter' leg kick is normally used.



Front Quadrant

one hand always in front of head

The timing of the swim stroke where at least one of the arms is always in front of the head. This is normally considered good freestyle technique as it gives time for a good catch and offers more support when breathing.

Care must be taken for the arms not to catch up fully at the front of the stroke, the arms should only just pass in front of the head.

Glide



don't over-glide

The action of coasting with a pause in your stroke. Normally this would be at the point in your stroke where you are on your side with one arm extended out in front of you.

Hypoxic

An old fashioned method of training where the number of breaths allowed is restricted whilst swimming. This supposedly trained the swimmer to become accustomed to oxygen debt. PBAC will includes sets of breathing every 5 or 7 strokes but not to create oxygen debt. Instead it encourages the swimmer to exhale more fully into the water and focus on their stroke without the distraction of breathing for short periods.

Ironman



waiting for the off

A long distance triathlon comprising the distances 3.8K swim, 180K bike, 42.2K run (a marathon).

A very iconic race distance that many see as the ultimate single day challenge.

Kick Board



classic kick board

A float, normally flat and square, which is traditionally held in front of you in your hands when you are performing kicking drills.

The float gives you the buoyancy to lift your head out of the water.

Swim Smooth aren't against kick boards but believe it is normally better to perform kick drills without boards, using small strokes or fins to assist with breathing.

Long Course

In competitive swimming, 'long course' means racing in a 50m pool - as used in the Olympic games.

In triathlon, Long Course means any triathlon distance longer than Half Ironman distance and very often the ITU set distance: 4K/120K/30K or the new 3K/80K/20K format.

Medley (Individual Medley - IM)

A swimming event combining all four of the strokes, normally performed in the order fly- back- breast- free. Classic distances are 200yd (50yd of each stroke) and 400yd (100yd of each stroke). Designed to find the best all- round swimmer, medley swimming is physically hard due to the fast transitions between strokes. It is commonly used in training swim sets.

Olympic Distance Triathlon

The triathlon race distance at the Olympic games. 1500m swim, 40K bike, 10K run. A race is called Olympic distance whether it allows drafting on the bike or not. Also historically called 'Standard Distance'.

Open Water (abv. OW)



a unique challenge

Ocean, sea, rivers or lakes. Swimming in open water presents some unique challenges which need to be overcome.

Pace Clock



A classic pace clock.

A traditional swim pacing clock with a double second hand.

Experienced swimmers use this to measure their swim times and recovery periods in sets so that they don't have to wear a watch (which can harm your feel for the water).

Since they know approximately their swimming times for various distances they can time themselves over periods much longer than a minute.

For instance, if you swim approximately 2:40 for 200 yd and set off on a red 60 ("red top") and finish on red 50 then you know you've swum 2:50. Neat.

Paddles



paddles

Paddles are training aids held or strapped to the hands whilst swimming.

Traditionally they are bigger than the hand and designed to increase grip on the water. They have two purposes; to increase the training forces (and so

possibly develop strength) and to give the swimmer a sensation of what it is like to have more grip - as if their catch was better.

Generally Swim Smooth don't encourage the use of these traditional paddles for distance freestyle as they increase the risk of shoulder injury and we don't believe they help a swimmer develop their catch significantly. There are exceptions to this such as PT paddles, see below.

Plantar and Dorsi Flexion



plantar flexion

Technical terms for pointing your foot (plantar flexion) and flexing it upwards (dorsi flexion). Good kicking technique involves plantar flexion but too many swimmers dorsi flex instead which greatly increases drag.

Posture

Swimming Posture is a concept that coaches try to develop to help swimmers achieve a better connection between their core and their arm stroke. Similar to good standing posture (shoulders down and back, chest out), swimming posture encourages a swimmer to retract their scapula (shoulder blade) and connect their arm stroke to the torso, increasing the coordination and transfer of power from the kick through the torso to the arms.

The work done by the small shoulder muscles is reduced and transferred to the much larger back and core muscles.

Propulsion



the catch

How much forward drive you generate with your swimming stroke.

Largely determined by your ability to catch and pull on the water with good rhythm and timing.

Simply put, swimming quickly is about two key elements: great propulsion and low drag.

PT Paddles



pt paddles

PT Paddles are a special type of paddle which do the opposite of a traditional swimming paddle.

They act to reduce the grip of the hand on the water, so forcing you to develop using your forearm for propulsion.

Use of the forearm is an important part of a good catch. When you use PT Paddles, overall propulsion is reduced so swimming speed is lower.

When they are removed, you should hold better technique, increasing your propulsion and so speed.

Pull



the pull phase

The 'pull' phase of the freestyle stroke is performed by the propulsive arm following the catch. It commences just in the front of the head and continues back under the body. The pull phase consolidates a good catch and builds up the propulsion further. If performed well, the pull transfers propulsive power from the

core to the water.

Pull buoy



classic pull buoy

A specially shaped float designed to sit between your legs as high as possible (touching your crotch). The pull buoy provides enough buoyancy that you do not have to kick to keep your body position high. This allows you to focus solely on your arm stroke as you swim. When using one, make sure you keep your core stretched to encourage body roll, it is too easy to become flat and not rotate enough when swimming with a pull buoy.

Push



the push phase

The last section of the propulsive phase of the stroke, as the arm and hand pass the lower core and hips. This final drive phase is the most powerful of all the phases but is only really powerful following an effective catch and pull.

Concentrating on this push phase can be particularly good if you are trying to develop longer stroke and develop more body roll

Push turn

A turn where the lead arm pushes off the wall, driving the upper body and head over the lower body. Immediately following, the legs push off from the wall to create drive. The alternative turn is a tumble turn where the legs flip over the body before pushing off.

Recovery



the recovery

The portion of a swimming stroke where the arms move over the surface of the water.

Rotary (freestyle)

A rotary freestyle stroke is one where the timing keeps the arms in opposite positions, sometimes called 'wind milling'. In contrast to a front- quadrant stroke, the arms pass behind the head. A rotary stroke can be employed effectively by some sprinters and distance swimmers of a shorter height. However, it is not recommended for most swimmers as it offers less support for breathing and a much shorter time to catch the water.

S Shaped Pull

A method of catch and pull that was taught in the 70s and 80s but is not recommended today as it is slower and carries a very high shoulder injury risk. The S Shaped Pull involved entering at the front of the stroke with thumb down and palm out, the first action under the water is to sweep outwards in front of the head, then sweep back in past the chest and then finally sweep out again by the hip.

Scissor Kick



classic scissor

A wide parting of the legs during the swim stroke which adds lots of drag and slows the swimmer down. Normally a scissor kick is an unconscious action and the swimmer is unaware of it. It is most commonly caused by a need to maintain balance in the water due to a cross-over at the front of the stroke.

Short Course

In the competitive swimming world, short course is racing in a 25yd or 25m pool. A different set of world records is kept for short course as it is faster than long course due to the increased number of push-offs. In triathlon, Short Course normally refers to Olympic distance races.

Sighting



perfect sighting

The technique of lifting your head to see where you are going in open water.

Streamline



streamlining

A body position for minimizing drag. The most common being a torpedo push off performed off the wall. This streamlined position allows you to hold your speed off the wall for as long as possible - it's faster than swimming!

Stroke Length

How far you travel for every stroke you swim is called your stroke length. Generally speaking a long stroke is a good thing, up to a point. Stroke length is normally measured by counting how many strokes (both arms) that you take to travel the length of a pool.

Stroke Rate



A metronome controls stroke rate.

How many strokes you take in a minute is called your stroke rate. Coaches at PBAC recommend you count both arms, but sometimes you see references on the web to counting only one arm.

Taper



Tapering - less is more

Backing off your training to freshen up for a big race. A common method is to drop the volume (hours) of training in the week before the big race but keep some intensity to your training to keep your body awake.

Technique



Working on your technique

Your swimming technique is another term for your swimming stroke. Your swimming speed is much more limited by your technique than your fitness.

Because of this, all levels of swimmer should work on their strokes in their swimming sessions and strike a good balance between technique work such as drills and fitness work and fitness training.

Threshold (Lactate)



Threshold is fast but not sprinting.

The speed at which you can swim continuously without lactate build up in your blood stream. The most significant factor in your physiology that determines your speed in distance and triathlon swimming. If your lactate threshold pace is higher your race performances will be faster too.

Time Trial (abv. TT)



tick tock

A flat out test of your speed against the clock. A time trial is an all out effort like a race but normally performed without competition.

Torpedo Push Off



nice torpedo

A streamlined swimming position with the arms above your head and shoulder blades pulled tightly together.

Push hard off the wall in this streamline position to start off your length of the pool at maximum speed.

Triathlon



no stopping in tri

A sport involving swimming, cycling and running in a continuous race without breaks. Larger triathlons and championship races have mass start swims in open water.

T

Tumble (turn) (also known as flip turn)



Mid tumble.

A tumble turn is one where the head and arms are driven under the body and the legs flip over the top before reaching the wall and pushing off. Sometimes also called a flip- turn.

Where allowed, it's used in elite pool swimming as it's the fastest method of turning.

Unilateral (breathing)

Breathing to one side only. Tends to cause asymmetrical strokes over time and is not recommended by PBAC coaches. Bilateral (breathing) is recommended by us to keep your stroke symmetrical and faster.

Wetronome



beep beep beep!

A small swimming gadget that can be set to different stroke rates and is placed under your swimming cap or goggle strap. Time your stroke to the beep and take control of your stroke.