

# Asgard Swimming Club

## Pool Equipment

### Backstroke flags

The backstroke turn indicator is a flagged rope used by the swimmers to indicate the end of the lane. The rope is placed 1.8 m above the surface and 5 m from the start line. Swimmers' stroke count from the flags varies by age, body size, and stroke efficiency, but typically a count will fall around 2-3 strokes for competitive adult swimmers. Younger athletes may take 3-5 strokes. Beginning level swimmers typically have a stroke count that changes as their stroke develops, but may reach up to 7 or more strokes at early ages. Stroke count can also vary based on pace (race intensity, practice intensity, etc). Most lane lines are designed with a color change that coincides with backstroke flag placement.

### Float Lines/Lane ropes

Lane ropes are used to diminish and deflect waves and make each lane in the swimming pool less turbulent. This means swimmers do not have to battle waves - theirs or others - which helps them swim faster.

They obtain maximum absorption of the waves created by swimmers, helping the water surface to be as perfect as possible. Float lines reduce waves in inner lanes by 80%. The wave caused by a swimmer when moving is practically absorbed, without causing noticeable reflection effects.

Ropes must separate all lanes. A rope also should be used to separate the 0.2 to 0.25 m of space on the ends of the first and last lanes. Each lane needs to have a rope, with floats, positioned from end to end. The distance between each float should be 0.05 meters to 0.15 m. According to FINA, there should be two green ropes, which are used for lanes 0 and 9. The pool should have six blue ropes, used for lanes 1, 2, 3, 6 and 8. Three yellow ropes are used for lanes 4 and 5.

### False Start Indicators.

The false start rope, for example, is used to indicate a false start to the swimmers. The rope is placed 5 m from the start line and suspends across the pool about 1.2 m above the surface.

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## **Starting Blocks.**

Competition pools have starting blocks from which the competitor can dive in, and possibly also touch-sensitive pads to electronically record the swimming time of each competitor

## Swimmer Equipment

**Swimsuit.** For competition, swimsuits need to be FINA approved- for a list of approved suits, go to the FINA websites. Many of the swimsuits now have FINA approved printed on them. Swimsuits should be well fitted- any loose material will cause a drag in the water. Girls may wear either the ordinary swimsuit or all in one suits to the knee for competition, to the knee swimsuits for boys are called Jammers- these are not readily available in sports shops, so buying on line is a good option. Sites such as [www.swimkit.ie](http://www.swimkit.ie), [www.swimshop.co.uk](http://www.swimshop.co.uk), [www.allenofkingsbury.co.uk](http://www.allenofkingsbury.co.uk) A good selection of swim gear such as fins, goggles etc is available on these sites. As of New Year's 2010, in competition, women are only allowed to wear suits that do not go past the knees or shoulders. As of New Year's Day 2010, men are only allowed to wear suits from the waist to above the knees. They are also only permitted to wear one piece of swimwear; they cannot wear speedos underneath jammers.

**Drag shorts.** Drag shorts like drag suits are worn in training and are also used to increase drag so that when taken off in racing it feels easier and the wearer feels less resistance. Other forms of drag wear include nylons, old suits, and t-shirts; the point is to increase friction in the water to build strength during training, and increase speed once drag items are removed for competition. Swimmers shave areas of exposed skin before end-of-season competitions, to reduce friction in the water. Drag wear is not normally worn during competitions.

**Swimhats.** Either silicone or latex swimhats should be worn for both training and competition. A club printed hat should be worn for competition. Fabric hats are unsuitable due to water absorption and are difficult to keep on the head!

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**Goggles.** Protect your eyes and see everything more clearly with goggles. Several manufacturers now make prescription goggles for people who need them. Goggles should be snug, yet comfortable. Sometimes it is necessary to keep trying new goggles until finding the right ones.

**Fins.** Work your legs and add propulsion to your swimming with fins. There are several kinds of fins to choose from. They should be snug fitting but not too tight. If you can't find the right size, get the slightly larger ones and wear socks with them. Long fins are great for beginners and people who need to develop ankle flexibility. Short fins are an alternative, and they are great for adding speed to your swimming without disproportionately overexerting the leg muscles.

**Pull-Buoy.** A **pull buoy** or **leg float** is a figure-eight shaped piece of closed-cell foam used in swim workouts. Swimmers place the buoy between the legs in the crotch area to provide support to the body without kicking the legs; this allows the swimmer to focus on training only their arms.

Pull Buoys are an excellent training device for developing endurance and upper body strength. Using them gives the arms an intense workout by providing flotation support for hips and legs. Good body position and technique can be established and a bilateral breathing rhythm can be refined.

This piece of equipment is a good aid to help swimmers enjoy their training. It can be combined with a rubber ring to tie one's feet together, so there is no notion of kick. It also provides individuals with heavy legs with a way to be better positioned in the water.

**Kickboard.** If you would like to work your legs exclusively, you can use a kickboard. This piece of equipment is usually made of foam and comes in a variety of shapes and sizes. It allows your upper body to float while you kick with your legs. If you try a kick board and find it makes your shoulders sore, try kicking without it, or try a smaller board with less flotation.

**Hand paddles.** If you're looking to work your pull a little more, hand paddles can sometimes help. Hand paddles are usually plastic and are held in place on the hands with short lengths of surgical tubing that are

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attached to the paddle. There are other types of paddles that look more like gloves, made of lycra and rubber. Be careful when considering using hand paddles. They can sometimes put too much stress on the shoulders.

**Snorkel.** A standard snorkel looks like a capital letter J. Swimmers use them to breathe while their mouths and noses are underwater, so that they can focus on keeping their heads in proper position while swimming. Snorkels are generally made out of a combination of plastic and rubber.

**Lane Etiquette.** When three or more swimmers are sharing a lane, do "circle-swimming". When you are circle-swimming, you go up on one side of the lane and return on the other. If you are not sure about it, ask the coach. Watching the traffic patterns is always a good idea before entering a lane with other swimmers.

When training in a lane with other swimmers, it is important to leave a 5 second gap between swimmers(or whatever gap is recommended by your coach). The wall clock is used to time this. It prevents one swimmer kicking another in the face, touching each others feet and prevents crowding in the lane.

Swimmers should always swim to the end of a lane in training and do tumble turns when appropriate. If you are stopped at the end of a lane while others are still training, step to one side to allow the other swimmers to turn

## Strokes

### Dolphin kick

The undulating, wavelike motion a swimmer makes underwater is called a dolphin kick. If the body is moving on the surface, it creates waves which actually create an extra component of drag. So if you can move underwater instead of on the surface of the water, you can actually eliminate this component of drag. Swimming underwater is the fundamental secret of why the dolphin kick is so effective: The more a swimmer can swim below the surface, the more efficient he or she can be.

### Streamlining

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Used most typically in competitive swimming, the streamline position is the position a swimmer takes underwater after pushing off a pool wall. To streamline, a swimmer must tuck the head into the collar bone, pointing both arms straight ahead in a tight line. The underside of both arms should be pressing on the back of the head. This position produces the most hydrodynamic position a human can take while accelerating underwater.

Kicking in the streamline position underwater can be substantially faster than swimming any of the other aquatic strokes, competitive or otherwise. For this reason, competitive swimmers often try to kick in a streamline position off a wall or the starting block for as long as they can underwater before coming up for their first stroke. The Fédération Internationale de Natation (FINA), otherwise known as the International Swimming Federation has strict regulations for underwater swimming in a FINA-regulated event. They regulate the length of the pool a swimmer may travel after the start or any turn without his/her head breaking the surface of the water, as well as the number of strokes (and, in the case of breaststroke, also the number of kicks) a swimmer may take underwater at these times.

The length one may travel underwater when racing in any one of the competitive strokes except breaststroke -- backstroke, butterfly and freestyle (typically performed as a crawl stroke) -- . This is slightly less than two-thirds of a 25 yard or meter pool (short-course) and slightly less than one-third of a 50 meter pool (long course).

## **FINA SWIMMING RULES REGARDING STROKES**

### **SW 5 FREESTYLE**

SW51. Freestyle means that in an event so designated the swimmer may swim any style, except that in individual medley or medley relay events, freestyle means any style other than backstroke, breaststroke or butterfly.

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SW 5.2. some part of the swimmer must touch the wall upon completion of each length and at the finish.

SW 5.3. Some part of the swimmer must break the surface of the water throughout the race, except it shall be permissible for the swimmer to be completely submerged during the turn and for a distance of not more than 15 metres after the start and each turn. By that point, the head must have broken the surface.

## **SW 6 BACKSTROKE**

SW 6.1. Prior to the starting signal, the swimmers shall line up in the water facing the starting end, with both hands holding the starting grips. Standing in or on the gutter or bending the toes over the lip of the gutter is prohibited.

SW 6.2. At the signal for starting and after turning the swimmer shall push off and swim upon his back throughout the race except when executing a turn as set forth in SW 6.4. The normal position on the back can include a roll movement of the body up to, but not including 90 degrees from horizontal. The position of the head is not relevant.

SW 6.3. Some part of the swimmer must break the surface of the water throughout the race. It is permissible for the swimmer to be completely submerged during the turn, at the finish and for a distance of not more than 15 metres after the start and each turn. By that point the head must have broken the surface.

SW 6.4. When executing the turn there must be a touch of the wall with some part of the swimmer's body in his/her respective lane. During the turn the shoulders may be turned over the vertical to the breast after which a continuous single arm pull or a continuous simultaneous double arm pull may be used to initiate the turn. The swimmer must have returned to the position on the back upon leaving the wall.

SW 6.5. Upon the finish of the race the swimmer must touch the wall while on the back in his/her respective lane.

## **SW 7 BREASTSTROKE**

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SW 7.1. From the beginning of the first arm stroke after the start and after each turn, the body shall be kept on the breast. It is not permitted to roll onto the back at any time. Throughout the race the stroke cycle must be one arm stroke and one leg kick in that order.

SW 7.2 .All movements of the arms shall be simultaneous and in the same horizontal plane without alternating movement.

SW 7.3. The hands shall be pushed forward together from the breast on, under, or over the water. The elbows shall be under water except for the final stroke before the turn, during the turn and for the final stroke at the finish. The hands shall be brought back on or under the surface of the water. The hands shall not be brought back beyond the hip line, except during the first stroke after the start and each turn.

SW 7.4. During each complete cycle, some part of the swimmer's head shall break the surface of the water. After the start and after each turn, the swimmer may take one arm stroke completely back to the legs. The head must break the surface of the water before the hands turn inward at the widest part of the second stroke. A single downward dolphin kick followed by a breaststroke kick is permitted while wholly submerged. Following which, all movements of the legs shall be simultaneous and in the same horizontal plane without alternating movement.

Interpretation: A dolphin kick is not part of the cycle and is only permitted at the start and turn whilst the arms are pulling back to the legs or after the arm pull whilst wholly submerged followed by a breaststroke kick.

SW 7.5. The feet must be turned outwards during the propulsive part of the kick. A scissors, flutter or downward dolphin kick is not permitted except as in SW 7.4. Breaking the surface of the water with the feet is allowed unless followed by a downward dolphin kick.

SW 7.6. At each turn and at the finish of the race, the touch shall be made with both hands simultaneously at, above, or below the water level. The head may be submerged after the last arm pull prior to the touch, provided it breaks the surface of the water at some point during the last complete or incomplete cycle preceding the touch.

### **SW 8 BUTTERFLY**

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SW 8.1. From the beginning of the first arm stroke after the start and each turn, the body shall be kept on the breast. Under water kicking on the side is allowed. It is not permitted to roll onto the back at any time.

SW 8.2. Both arms shall be brought forward together over the water and brought backward simultaneously through-out the race, subject to SW 8.5.

SW 8.3. All up and down movements of the legs must be simultaneous. The legs or the feet need not be on the same level, but they shall not alternate in relation to each other. A breaststroke kicking movement is not permitted.

SW 8.4. At each turn and at the finish of the race, the touch shall be made with both hands simultaneously, at, above or below the water surface.

SW 8.5. At the start and at turns, a swimmer is permitted one or more leg kicks and one arm pull under the water, which must bring him to the surface. It shall be permissible for a swimmer to be completely submerged for a distance of not more than 15 metres after the start and after each turn. By that point, the head must have broken the surface. The swimmer must remain on the surface until the next turn or finish.

### **SW 9 MEDLEY SWIMMING**

SW 9.1. In individual medley events, the swimmer covers the four swimming styles in the following order: Butterfly, Backstroke, Breaststroke and Freestyle.

SW 9.2. In medley relay events, swimmers will cover the four swimming styles in the following order: Backstroke, Breaststroke, Butterfly and Freestyle.

SW 9.3. Each section must be finished in accordance with the rule which applies to the style concerned.

### **SW 10 THE RACE**

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SW 10.1. A swimmer swimming over the course alone shall cover the whole distance to qualify.

SW 10.2. A swimmer must finish the race in the same lane in which he started.

SW 10.3. In all events, a swimmer when turning shall make physical contact with the end of the pool or course. The turn must be made from the wall, and it is not permitted to take a stride or step from the bottom of the pool.

SW 10.4. Standing on the bottom during freestyle events or during the freestyle portion of medley events shall not disqualify a swimmer, but he shall not walk.

SW 10.5. Pulling on the lane rope is not allowed.

SW 10.6. Obstructing another swimmer by swimming across another lane or otherwise interfering shall disqualify the offender. Should the foul be intentional, the referee shall report the matter to the Member promoting the race, and to the Member of the swimmer so offending.

SW 10.7. No swimmer shall be permitted to use or wear any device that may aid his speed, buoyancy or endurance during a competition (such as webbed gloves, flippers, fins, etc.). Goggles may be worn.

SW 10.8. Any swimmer not entered in a race, who enters the water in which an event is being conducted before all swimmers therein have completed the race, shall be disqualified from his next scheduled race in the meet.

SW 10.9. There shall be four swimmers on each relay team.

SW10.10. In relay events, the team of a swimmer whose feet lose touch with the starting platform before the preceding team-mate touches the wall shall be disqualified.

SW10.11. Any relay team shall be disqualified from a race if a team member, other than the swimmer designated to swim that length, enters the water when the race is being conducted, before all swimmers of all teams have finished the race.

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SW10.12. The members of a relay team and their order of competing must be nominated before the race. Any relay team member may compete in a race only once. The composition of a relay team may be changed between the heats and finals of an event, provided that it is made up from the list of swimmers properly entered by a Member for that event. Failure to swim in the order listed will result in disqualification. Substitutions may be made only in the case of a documented medical emergency.

SW10.13. Any swimmer having finished his race, or his distance in a relay event, must leave the pool as soon as possible without obstructing any other swimmer who has not yet finished his race. Otherwise the swimmer committing the fault, or his relay team, shall be disqualified.

SW10.14. Should a foul endanger the chance of success of a swimmer, the referee shall have the power to allow him to compete in the next heat or, should the foul occur in a final event or in the last heat, he/she may order it to be re-swum.

SW10.15. No pace-making shall be permitted, nor may any device be used or plan adopted which has that effect.

## Competitions

### Officials

There are several types of officials,[5] which are needed to manage the Competition.[6]

**Referee:** The referee has full control and authority over all officials. The referee will enforce all rules and decisions of FINA and shall decide all questions relating to the actual conduct of the meet, and event or the competition, the final settlement of which is not otherwise covered by the rules. The referee takes overall responsibility for running the race and makes the final decisions as to who wins the competition. Referees call swimmers to the blocks with short blasts of his or her whistle. This is the signal for the swimmers to stand next to their blocks. Starters call missing swimmers if necessary. Then the referee will blow a long whistle that will tell the swimmers to step on a block. The referee will then hand over control to the starter.

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**Starter:** The starter has full control of the swimmers from the time the referee turns the swimmers over to him/her until the race commences. A starter sends the swimmers off the blocks and may call a false start if a swimmer leaves the block before the starter sends them.

**Clerk of Course:** The clerk of course assembles swimmers prior to each event. They decide where to put the swimmers by time. They always put the people who have not swum the event before in heat 1. Ex: if you swim a 50yd breaststroke in 39 seconds, you would probably be put in the second to last heat, however, if you swum the 50yd breaststroke in a minute, you would probably get put in heat 2.

**Timekeepers:** There are three (3) timekeepers for each lane. Each timekeeper takes the time of the swimmers in the lane assigned to him/her. Unless a video backup system is used, it may be necessary to use the full complement of timekeepers even when Automatic Officiating Equipment is used. A chief timekeeper assigns the seating positions for all timekeepers and the lanes for which they are responsible. The chief timekeeper collects from the timekeepers in each lane a card showing the times recorded and, if necessary, inspect their watches. One timer will be timing with a stopwatch, another recording it down, and one making sure everything is valid.

**Inspectors of Turns:** One inspector of turns is assigned to each lane at each end of the pool. Each inspector of turns ensures that swimmers comply with the relevant rules for turning as well as the relevant rules for start and finish of the race. Inspectors of turns shall report any violation on disqualification reports detailing the event, lane number, and the infringement delivered to the chief inspector of turns who will immediately convey the report to the referee.

**Judges of Stroke:** Judges of stroke are located on each side of the pool. They ensure that the rules related to the style of swimming designated for the event are being observed, and observe the turns and the finishes to assist the inspectors of turns.

**Finish Judges** Finish Judges determine the order of finish and make sure the swimmers finish in accordance with the rules (two hands simultaneously for breaststroke and butterfly, on the back for backstroke, etc.)

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If an official catches a swimmer breaking a rule concerning the stroke he or she is swimming, that swimmer is said to be disqualified (commonly referred to as a "DQ") and the swim is not considered valid. The referee can disqualify any swimmer for any violation of the rules that he personally observes. The referee may also disqualify any swimmer for any violation reported to him by other authorised officials. All disqualifications are subject to the decision of the referee.

## Lanes

During a swimming competition, each athlete is assigned to a marked lane. An Olympic-size swimming pool features eight lanes with two outside lanes used as a buffer zone. Each lane measures 2.5 m wide and is marked by a rope and buoys on top of the water and a lane line painted on the bottom. The lane lines end 2 m before the end wall of the pool as an indicator to the swimmer

## Entry Time Conversions for competitions

Entry times to swim meets serve two basic purposes:

- 1) to determine eligibility for the meet and
- 2) to properly seed swimmers in their events.

Usually, a swimmer will enter an event using his or her best or most recent time. However, if a swimmer has not swum an event recently and has been improving, his or her best or most recent time may not seed them in an event appropriately. This is often true for newer swimmers in Long Course (50m pool) when the last time they swam an event was the previous summer. In these cases, it might be appropriate to convert a short course (25m pool) time into a long course time for entry purposes. These conversions are done using the Team Manager soft ware by Hytec. If prompted, the software will convert times to the requested course. All galas are set up by the organising club and they will set the course, either short course or long course. When swimmers are being entered in events, Hytek will choose the fastest time in that event in the specified course. If a swimmer has a time in the alternative course which is faster when converted, the club can reset the gala to choose the fastest converted time. **A converted time is an estimated time** and some galas may not accept them. The majority of galas in Ireland are short course galas

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**Open water swimming.** Open water swimming is swimming outside of a regular pool, usually in a lake, or sometimes ocean. In open water swimming, where the events are swam in a body of open water (lake or sea), there are 5 km, 10 km and 25 km events for men and women. However only the 10 km event is included in the Olympic schedule, again for both men and women. Open-water competitions are typically separate to other swimming competitions with the exception of the World Championships and the Olympics.