Swim Smooth

Guide To...

Open Water Swimming

triathlon england

triathlonengland.org

Introduction

We know the open water can be a daunting task if you're entirely new to triathlon or open water swimming. We've developed this guide to help you start to develop your confidence in this strange new environment and help you overcome any fears you might have.

Even if you've been swimming for a while and working on improving your performances in the open water, you'll find these first pointers useful to help and later on in the guide you'll find some more advanced practices to help you become a more efficient open water swimmer.

Overcoming Anxiety

You've probably spent some time familiarising yourself with the basics of sound freestyle stroke in the pool, only to find yourself feeling very panicked during the first few moments of your swim in the great outdoors, be it lake, river or sea.

Don't worry- this is perfectly normal even for stronger pool swimmers. The key is to first recognise that you have an anxiety with swimming in the open water, then find a strategy to overcome it that works for you. Becoming more relaxed will enable you to focus on developing your stroke and skills to suit a wide range of water conditions. At that point you'll be able to feel liberated in the open water!

Breathing

The most common stroke flaw we see at Swim Smooth is for swimmers to hold their breath underwater. To a large extent it's instinctive since we're mammals and don't have gills! Some people feel that exhaling into the water will make them run out of air, however this could not be more untrue! By exhaling smoothly and constantly into the water, the lungs are cleared from CO_2 and the shortness of breath feeling is greatly reduced.

The build up of CO_2 causes a sense of anxiety and panic which becomes doubly worse in the alien environment of open water. For this reason, learning to exhale efficiently underneath the water whilst in the pool environment is your first step towards swimming confidently in the open water.

A smooth relaxed exhalation is one of the essentials of a great freestyle stroke

Your exhalation should feel like a long steady sigh into the water. You can breathe out your nose or mouth or a combination. The key is to ensure a continuous flowing stream of bubbles startingas soon as you've finished your breath in.

Better exhalation is good for your stroke technique as it reduces excess buoyancy in your torso, helping keep your legs higher in the water and your body position more streamlined, causing less drag and a more efficient stroke. The opposite, holding your breath, not only causes anxiety but also what we call 'sinky leg syndrome', increased drag and makes swimming freestyle really hard work!

Exercises to help you exhale properly

1. Blowing Bubbles

Place your face in the water and blow a smooth stream of bubbles. Which makes you feel more relaxed? Nose, mouth or both?

2. Sink Downs

Try the same exercise above in deeper water and see if the process of breathing out allows your body to start sinking down. If you stay afloat this indicates that you may be holding onto your breath for fear of letting go. Trust us- just go with it! Try this several times letting your whole body go relaxed and sink down to the bottom of the pool.

3.'Bubble-Bubble-Breathe'

To help coordinate the timing of your breathing, try repeating our famous mantra: 'Bubble-Bubble-Breathe, Bubble-Bubble-Breathe'. We use this with all our swimmers in the pool but it is equally powerful in open water as the alien surroundings subconsciously cause them to hold their breath and worsen the anxiety further!

This simple mantra places all your focus on the process of breathing. Say 'bubble-bubble' for two arm pulls as each hand enters into the water and breathe in on the third arm pull. You will find that this rhythm will initiate a bilateral breathing pattern (breathing to both sides) without you having to think about it. Breathing bilaterally is always great for your swimming as it naturally improves your stroke symmetry and so will help you swim much straighter between buoys.

Becoming a "Selfish-Swimmer"

Anxiety and feelings of panic are often caused by a particular aspect of open water swimming, the most common areas being:

- murky water
- deep water
- cold water
- claustrophobia from others swimming very closely to you
- reeds, bull-rushes and oozy mud upon entering the water
- losing your sense of direction
- fear of marine life and other submerged objects

This is not an exhaustive list but may help you to identify what is triggering your individual discomfort. In the comfortable environment of the pool it's relatively easy to focus on your own stroke movements but in open water, these distractions can shift your focus outwardly towards things which you cannot control.
Knowing which element(s) of open water swimming trigger your anxiety can help enormously as you can work on blocking them out and letting them take care of themselves. We call this 'becoming a selfish swimmer' as you think solely about your own movements and swimming. This returns that feeling of control to you and leaves you feeling much more relaxed.

Safety

Swim Smooth encourages safe and enjoyable participation in open water swimming, whilst numerous and varied opportunities exist to participate we recommend attending formal swimming sessions organised by a National Governing Body affiliated club, organisation or individuals as these sessions, as a rule are operated under guidelines aimed at increasing your safety and enjoyment.
Before venturing into any open water session ask yourself or the organiser these questions and don't venture in until you are satisfied of the answers:

- What is the water temperature & quality, is it at a safe level
- What safety cover is in place to help me if I need assistance and what do I do if I need help?
- Are there any dangers I need to aware of over and above the obvious
- Am I in safe hands? Has there been a risk assessment done?
- Are the staff qualified and insured?

Whilst no sporting activities can be risk free we encourage you to ensure that you and others have done everything possible to reduce the risks to a minimum before engaging in open water swimming.

To find out where your nearest organised sessions are please check out:
www.britishtriathlon.org/take-part/clubs

Useful contacts to obtain information

www.ec.europa.eu
provides bathing water profiles - Best practice and Guidance

www.gov.uk/government/uploads/system/uploads/attachment_data/file/200499/pb13931-bathing-waters-2013-list.pdf
provides list of designated bathing waters

www.rospa.com/leisuresafety/adviceandinformation/watersafety/
provides advice and information on general water safety

www.dft.gov.uk/mca/
Maritime & Coastguard Agency provides advice on water safety

www.environment-agency.gov.uk/homeandleisure/37811.aspx
provides advice on river and lake water quality

Always aim to swim in designated safe open water venues and under the supervision of a coach with good safety support staff at all times.
On the occasions that you may like to venture a little off the beaten track, always swim with at least two other swimmers and stay close to each other at all times.

You will find that having this reassurance of support will make you feel significantly more comfortable in the open water and with it your confidence and ability to develop your skills will grow. Even then, remember swimming in the great outdoors is at the whim of mother nature and you should never enter any body of water without addressing appropriate safety provisions



When there is no black line to follow, it is very easy to wander off course in the open water and this can add significant distance to your swim distances, costing you valuable time. Over the past three years, we have been plotting GPS traces of swimmers who thought they swam a bit off course during an open water race, only to find that they had added up to 20% of the distance through a zig-zagging path! For the full video, check out:

www.swimsmooth.com/offcourse

We traced the path of one swimmer as he approaches the swim finish, clearly there is room for improvement!

This inability to hold a straight line boils down to two key factors:

1. Stroke Imbalances

&

2. Inefficient Sighting Strategies

- 1 -

Stroke Imbalances

A common cause of stroke imbalances is unilateral breathing, or breathing to one side only. This will develop a strong asymmetry to movements over time, causing a preference to veer to one side. A great little experiment is to swim 10-15 strokes with your eyes closed in the pool or open water and see which direction you naturally swim in.

When viewed from above, the unilateral breather will typically swing the lead arm across the midline in front of the head as they breathe, throwing the body off balance and causing the legs to scissor kick apart to counterbalance. Usually the other arm will then subconsciously correct this by also swinging across the midline, leaving the swimmer snaking through the water.

A crossover in front of the head when breathing will cause you to snake and swim off course in open water

Whilst some of the world's best swimmers and triathletes only breathe to one side, their strokes are already well developed. For the developing swimmer, breathing to one side is a recipe for disaster.

A key way to develop symmetry in the freestyle stroke is through learning to breathe bilaterally. You can also work directly on your alignment by focusing on the middle finger of each hand extending forwards in front of the same shoulder as you enter the water. Visualise cutting straight down the pool and maintain this focus just as strongly on a breathing stroke. To help with this you can modify the mantra we used before to:

bubble - bubble - straight, bubble - bubble - straight

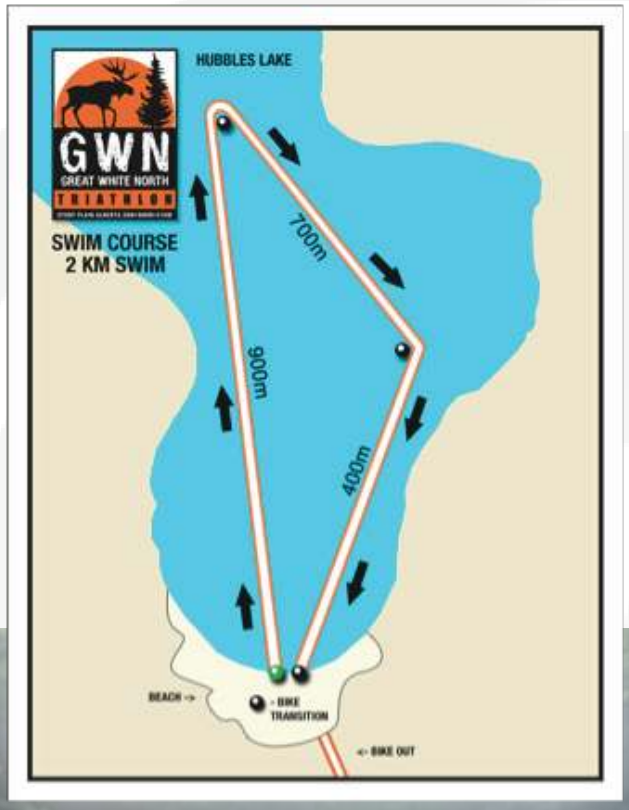
Say 'bubble bubble' for the first two arm pulls and think 'straight' on that third breathing arm pull, to encourage your arm to stay reaching infront of the shoulder rather than cross over the centre line of your body.

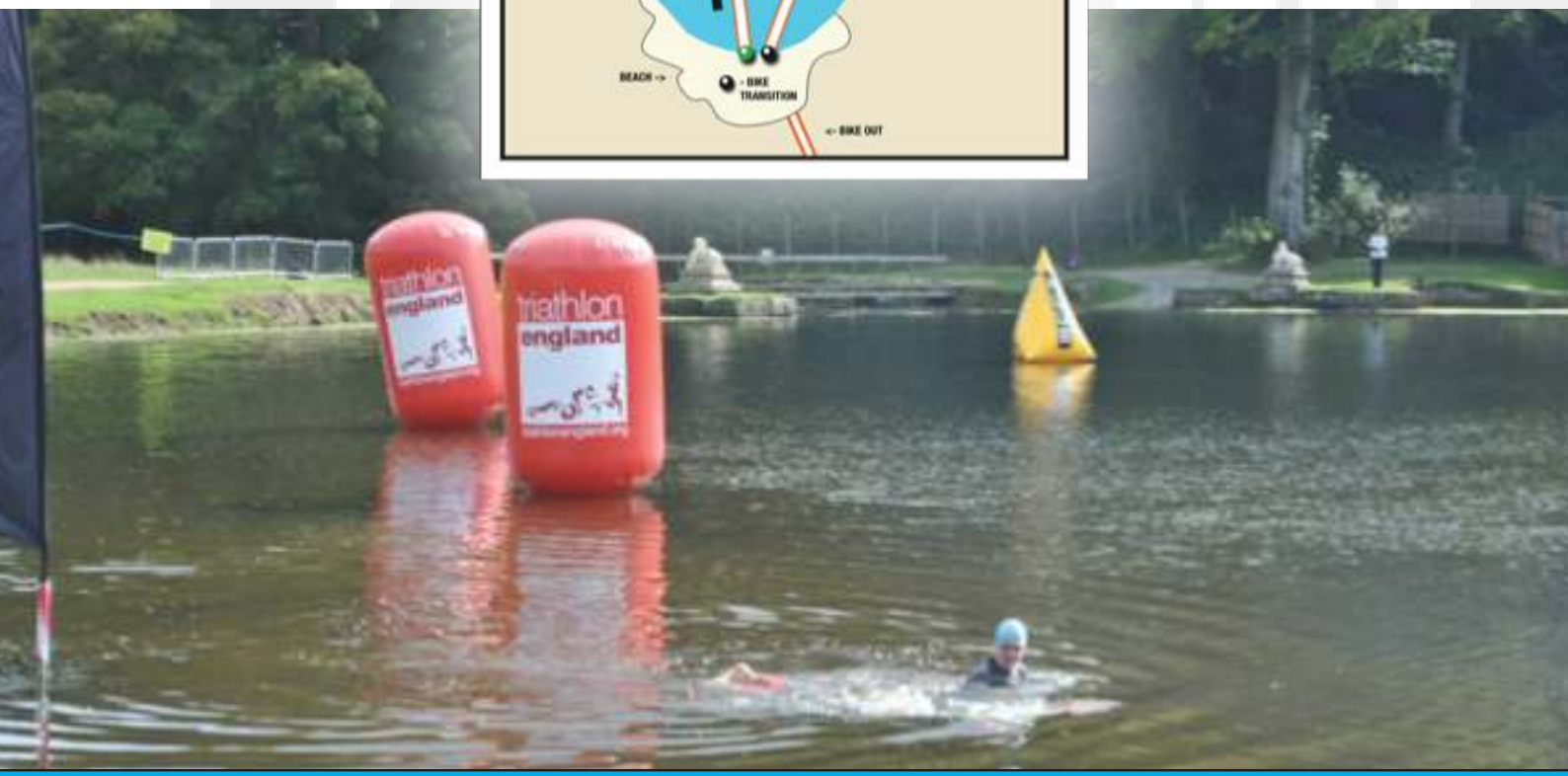
- 2 -

Sighting Strategies

Navigation

When it comes to improving your sighting and navigation, the most important thing is to do your homework before an event. Many swimmers and triathletes start a swim event without having done any detailed reconnaissance of the course beforehand. Using the map provided by the race organiser, aim to walk around as much of the course as possible and work out key landmark features that might help you better target each turn buoy when you are down at water level.





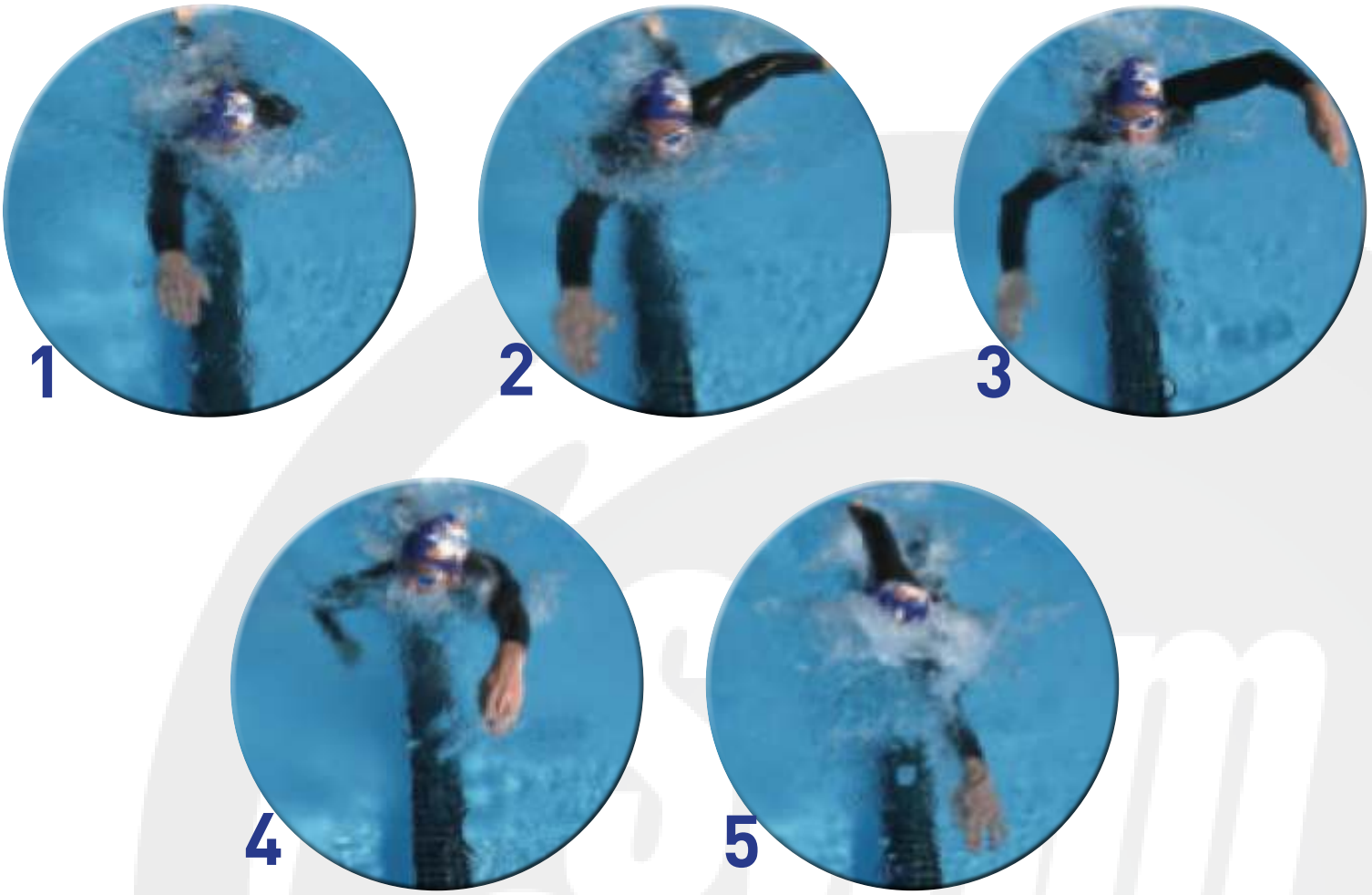
Take a vertical line upwards from the turning buoy and see what key features on the horizon make sighting easier, e.g. a tall tree, hill top, odd-shaped building.

Aim for these as you swim rather than becoming too focused on the buoy itself, especially if the water is a little rough. This will take some of the stress out of sighting small turn buoys in the melee of a race start. Doing this well will also help remove some of the disorientation that many people experience in open water.

The most common mistake to make when sighting forwards is to lift the whole face out of the water and try to sight and breathe at the same time. In order to lift your head out sufficiently to breathe, the legs sink dramatically creating additional drag, even when wearing a wetsuit.

Keep your head as low as possible when sighting in the open water to prevent excessive drag from sinky legs

Good sighting technique involves lifting just your eyes out of the water and then rolling your head to the side to breathe, this should happen in one smooth fluid movement. If you were about to breathe to your right, you would press down slightly with the right arm as you pull through to raise just your eyes above the water line before continuing to roll the head with your body's natural rotation to the right and take a breath as normal:



Sighting Technique Sequence: Lift your head just enough to sight forward and then breathe to the side

Avoid trying to hold your head up high for several strokes until you can see exactly where you are going with a waterpolo style of stroke. That is extremely fatiguing. If you cannot see where you are going on your first sighting stroke then don't panic and retry a couple of strokes later. You will not always get a clear view every time you sight forwards but by sighting two or three times in a row you will gradually change what is initially a fuzzy picture into a clearer view of where you are going. Once you have that image in your head, lock onto it and focus entirely on cutting as straight a line as possible to that point.

Adapting Your Stroke
for the Conditions

Whether you swim in the sea, ocean, river or in a flat lake, the experience of swimming in the open water can be very different to that of a pool. Even a calm lake can be transformed into a foaming mass of arms and legs at the start of an event and knowing how to adapt your stroke to cope with this is a big advantage irrespective of your level of ability.

Open water swimming can be very different to the pool, especially when conditions are rough and choppy or there are lots of swimmers around (the washing machine effect)

Stroke Rate

The biggest single difference between the world's best pool swimmers and those who dominate the sport in the open water and during a triathlon is their stroke rate, i.e. how many times your arms turn-over per minute. The typical stroke rate of the world's best male pool swimmers over 1500m are in the range of 68-76 Strokes Per Minute (SPM), compared with the world's best open water swimmers and triathletes who are in the region of 75-90 SPM (or even higher!). Female swimmers generally have slightly shorter arms than men and so use higher stroke rates still in both environments.

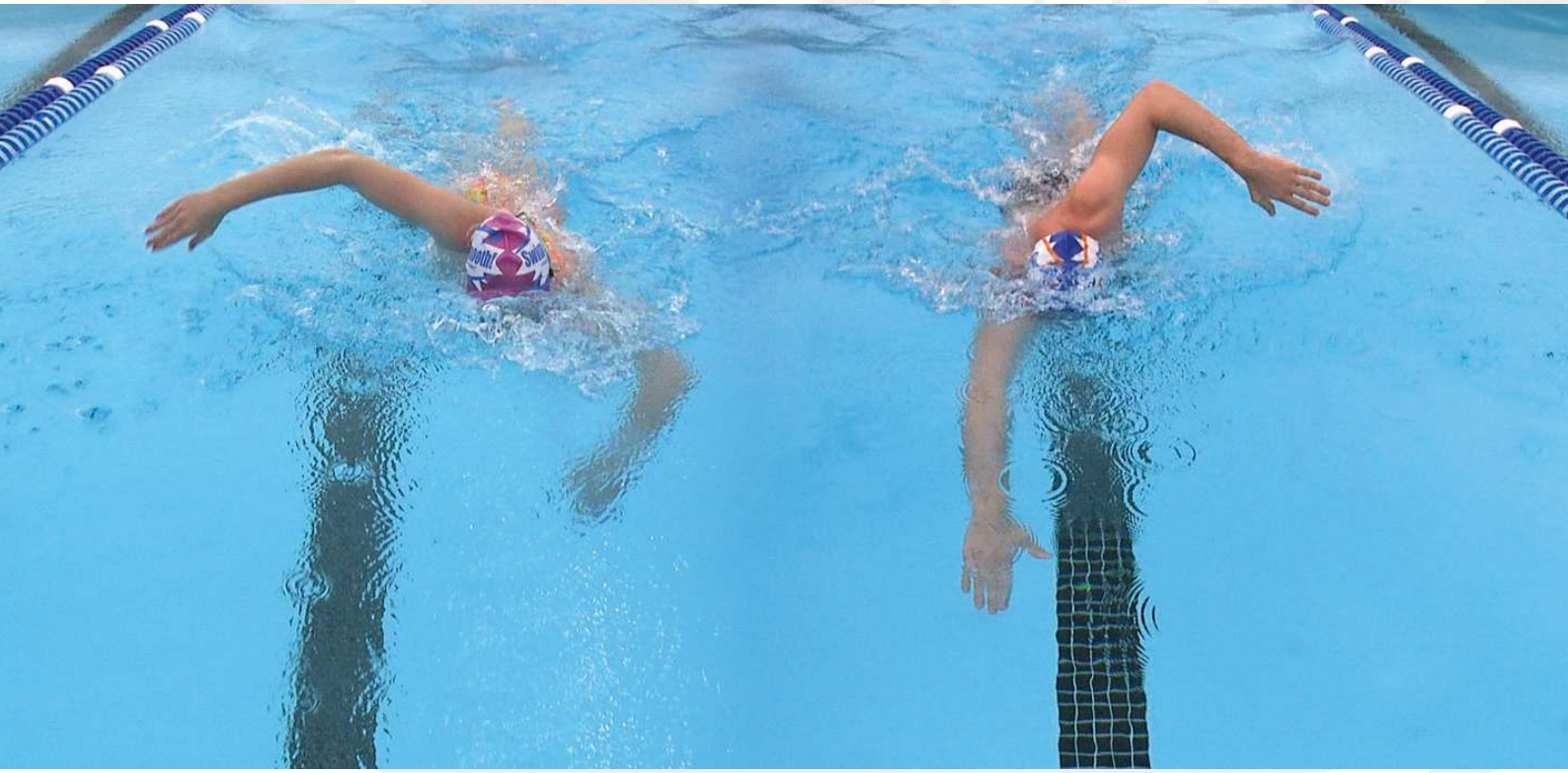
It is common folklore that the longer a stroke (taking fewer strokes per lap) and the lower the stroke rate, the more efficient it is. Many swimmers have taken this notion way too far and have introduced a distinct pause-and-glide into their stroke timing, effectively applying the brakes at the front end of the stroke. At Swim Smooth we call this Overgliding, which kills the rate and rhythm of your stroke.

In the open water, the ability to hold higher tempo, rhythmical strokes with plenty of momentum is a real advantage when battling swell, chop and the turbulence created by other swimmers close to you. Whilst a very long stroke might look smooth, it's not always the most effective in the open water, which is a major reason for the disparity in stroke rates between the world's best open water swimmers over their pool counterparts. If you can learn to adapt your stroke to the conditions then you will perform much better as a result.

The elastic nature of the neoprene in wetsuits assists with developing a slightly higher stroke rate. Even in the most flexible wetsuits, range of movement in the shoulder is slightly restricted, helping the arms spring-back at the front of the stroke after full extension. The result is a naturally decreased stroke length since the catch phase is initiated a little sooner. This elevates the stroke rate about 5-8 SPM, assisting overall speed through the water.

Arm Recovery

Another obvious difference between good pool and good open water swimmers is their recovery action over the top of the water. Those who have come from a pool swimming background are commonly taught to swim with the classic high elbow recovery, where the elbow stays high with the fingertips just skimming over the surface of the water as the hand travels forwards.



Straight versus high elbow arm recovery styles

The high elbow recovery certainly appears very smooth and looks aesthetically very pleasing to a bystander or coach on the pool deck, however it is not often adopted by great open water swimmers.

Instead, they prefer a straighter arm recovery with more hand clearance over the water.

This is very advantageous in the open water for three key reasons:

• A higher arm ensures the hand does not clash with waves or chop in rough conditions

• It allows the swimmer to get closer to other swimmers and so benefit from drafting to the side of them

• It reduces stress on the shoulder joint when wearing a wetsuit

Whilst this stroke action may seem a little unorthodox at first, it can prove to be very beneficial especially for those with limited flexibility in the upper back and shoulders.

Many open water swimmers and triathletes adopt a straighter arm recovery for good clearance over the water's surace

Practicing fast entries and exits between land and open water is a priority for more advanced level swimmers. However, if you are new to open water swimming don't let this put you off, entry and exit skills are great fun to learn and performing them well will help you build a sense of confidence and pride in your open water swimming.

Entry

Before practicing your entry skills – or performing them in a race – it is vitally important to check the shallows of the beach or bank area where you will enter the water. Submerged rocks, logs or other obstacles are significant hazards to bare feet and also at the point where you dive and porpoise forwards.

Knowing how the bottom shelves away is also important so that you have a plan for how far you will be able to run and then how many porpoises you will perform before entering your full stroke.

A good entry has three main phases:

- 1 -

Being aware of who your competitors are before the start is important so that you can enter the water alongside them and immediately start drafting them. Lining up alongside a swimmer who is slightly quicker than you can lead to a significantly faster swim split for this reason. Watch your competitors and the entry path into the water and be ready for the start at all times as the gun could go off at any point.

The Perth squad line up for a beach start

- 2 -

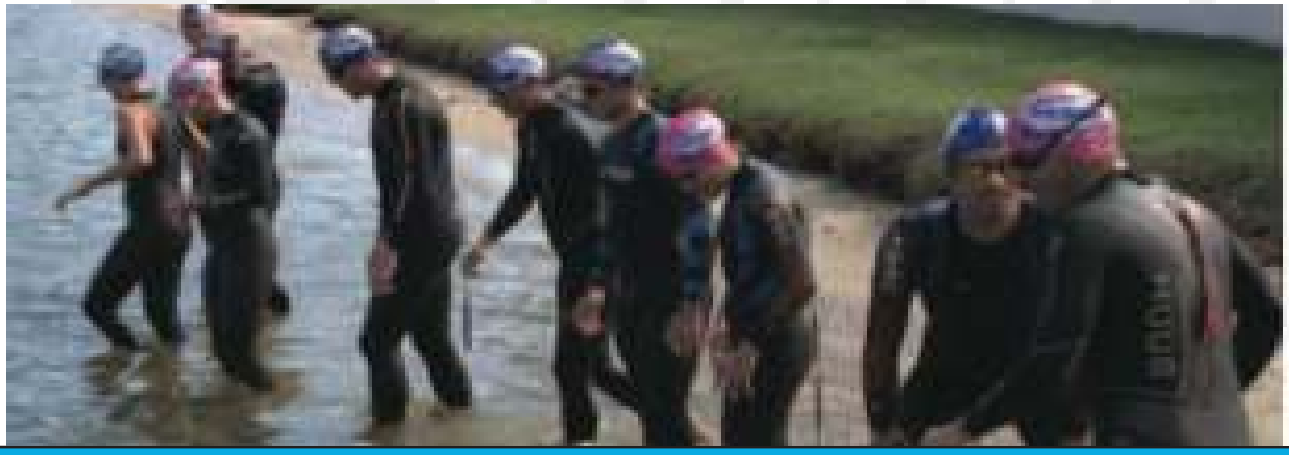
The run in is conducted with a bounding running style, flicking the legs out to the side to clear the water's surface as it becomes deeper. Tall athletes have an advantage here and can generally run a few strides further before diving forwards into the water. As soon as the water becomes too deep to run through, dive and carry as much momentum as possible into it so that you travel maximum distance.

- 3 -

With a gradually shelving beach it is normally possible to porpoise one to four times after your initial dive. Dive to the bottom and with your hands grab the sand at the bottom to pull yourself forwards, tucking your legs under your body. Then explosively leap forwards, pushing hard off the bottom, clearing the water and diving forwards again, grabbing the bottom and repeating.

As soon as the water becomes too deep, break into your freestyle stroke from the last dive forwards and immediately pick up the draft of your chosen competitor(s).

Porpoising in this manner helps you cover this initial distance quicker than swimming which can help you break away from a competitor who starts swimming sooner, perhaps putting 10-20m over a competitor, removing any possibility of them drafting from you. The key thing is to practice these skills regularly before your races so that executing them is second nature.



Deep Water Starts

Many races feature a deep water start, with the field lined up between two buoys before the start:

Swimmers establish the correct start position for their own ability at the start line of the Inaugural Brownlee Tri

There are two key elements to a good start here.

Firstly, make sure that you position yourself correctly before the start. If you are new to open water swimming the temptation is to position yourself at the back of the field or way off to one side. Very often this is not appropriate and by selecting a slightly more central or forwards position you will be with other swimmers of your own ability and can swim a much shorter path to the first buoy and establish a lead on the other competitors.

If you are racing at quite a high level you can seek out competitors you know who will swim the same speed or slightly faster than yourself. Sit yourself directly beside them so that you can immediately pick up their draft once underway.

If you are unsure where to start, ask for assistance from a coach or experienced swimmer at the event who knows your speed and ability to help you judge your position. Swimming with swimmers of your own ability level is far smoother and easier than having to fight through hundreds of slower swimmers, which can be very frustrating, so it is important to get this right.

The second important element with a deep water start is to make sure that you are ready for the race to start. Do this by lying with your legs high at the rear in the direction which you are going to travel, ready to go. Either lie on your side with your lower arm out in front ready to take a stroke, or directly on your front sculling the water with both hands (recommended). These positions leave you ready to go immediately into your stroke.

Side lying start position

Front lying start position

Expect to use a strong burst of kick to get yourself up to speed and then quickly settle into your stroke rhythm and find a fast pair of feet to draft!

Beach Exits

A beach exit is a little like a beach start but in reverse. If there's a very slow gradient through shallow water swim to shore until you can just touch the bottom with your outstretched hand and then dive down to the bottom and perform a porpoise. Continue this until you can start running, clearing the water's surface by flicking your heels out to the side as you go. The classic mistake swimmers make here is to stand up too soon in deep water and start wading in very slowly, which will loose you vital time.

Studies have shown that skilled swimmers can save up to 38% of their energy expenditure by drafting another swimmer. This is a huge saving and makes drafting skills so critical to open water swimming that we at Swim smooth recommend you practice them year round on a very regular basis. There are lots of ways to add drafting to your normal pool sets in the spring and winter months, to keep those skills finely tuned.

You can save you minutes on your swim split or leave yourself super-fresh for your bike leg after saving energy and swimming at the same speed by drafting well.

There are two main methods of drafting, behind another swimmer (in-line) or tucked in at the side on their hip (arrow-head). The latter is a more advanced skill but can be tactically superior and may give an even greater drafting effect.

In-line drafting directly behind another swimmer

This is the simple way of drafting and an excellent place to start. Swim as close as you can to the swimmer in front without touching their toes, this requires a lot of concentration, more than swimming alone. You will also feel the jostling motion of the disturbed water from the swimmer in front which can be slightly disconcerting at first.

Stay in a nice rhythm and enjoy the feel of the pull from the swimmer in front. Sometimes it may feel too easy in this position and you may be tempted to try and overtake and go alone but be wary of doing so; very often once you are alone the effort level rises considerably and you appreciate how much drafting benefit you were gaining!

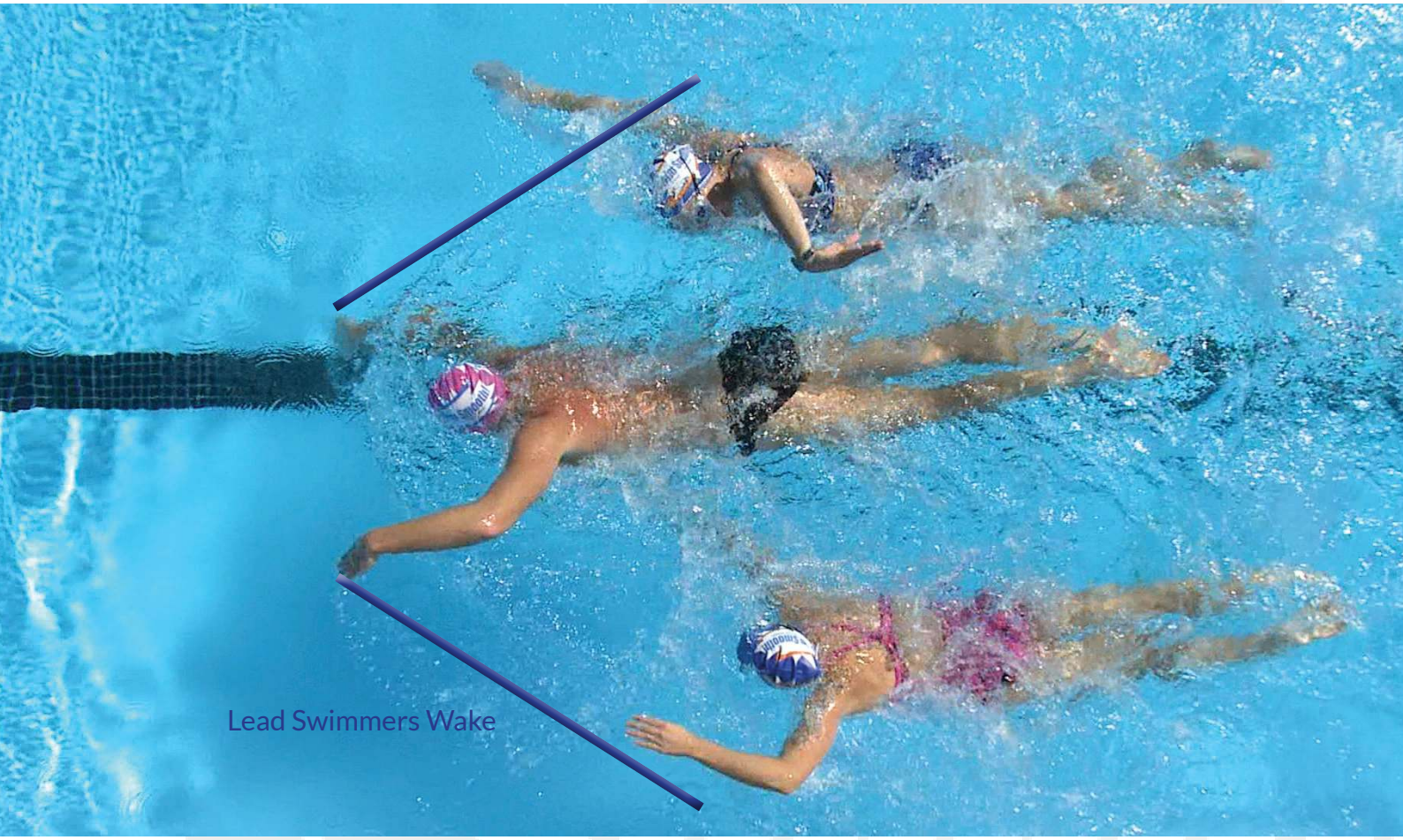
When swimming in this position it is important to maintain responsibility for your own navigation. The swimmer in front of you can easily wander off course and take you with them, so continue to sight regularly and make judgement calls on whether to leave them if they go off course.

Drafting directly behind another swimmer requires concentration but carries a significant energy saving

Arrow-head drafting beside another swimmer

This is a more advanced skill but allows you to swim closer to other swimmers and gain a greater energy saving benefit as a result. The position also allows you to keep a close eye on your competitors and come round them more easily. Plus, if you do drop away you have a lifeline of trying to get on their toes and draft on their feet instead – useful during turns at buoys where it is possible to lose your position slightly, with everyone scrambling for the best route.

Swim to the side with your head level with the hip of the other swimmer. This sits you nicely in their wake which makes a arrow shape from their head. Sit as close as you can and if possible match your stroke rate to theirs so your arms do not clash.



Swimming close in beside another swimmer and breathing towards them is a more advanced skill but can be strategically advantageous

Try to breathe in towards the other swimmer, as swimmer at the top of the picture is doing. Yes you will experience some disturbed water which can make breathing slightly more difficult, but breathing towards them will allow you to judge the gap accurately and constantly, keeping you closer to them and drafting more effectively. This is one situation where unilateral breathing is a strategic advantage in open water swimming.

Pacing

With the adrenaline of a race and the melee of other swimmers around you it is very easy indeed to set off too fast in an open water race.

With swimmers around you doing the same thing it can be difficult to be aware of this effect but it will cause you to fatigue quickly, slow down progressively and therefore harm your overall swim split significantly.
The key to getting this right is to work on your pace judgement in the pool. When you become good at maintaining a constant pace your open water swimming will really benefit, so you will swim much faster overall.

An extremely useful tool to develop your pacing skills in the pool is a Finis Tempo Trainer which sits under your swim cap and beeps to you at regular intervals. Set to beep at a desired pace every lap (e.g. 20 seconds per lap) you can learn to pace out your swims, turning at the end of the pool on the beep. This is a great way to train and develop your pacing skills at the same time – very useful doubling up for the time-poor triathlete. You can purchase one here:

www.swimsmooth.com/products.html

Conclusion

We hope you've enjoyed the Swim Smooth Guide to Open Water Swimming. For free articles, advice and animations to help you further improve your swimming technique, fitness and open water swills, visit:

www.swimsmooth.com

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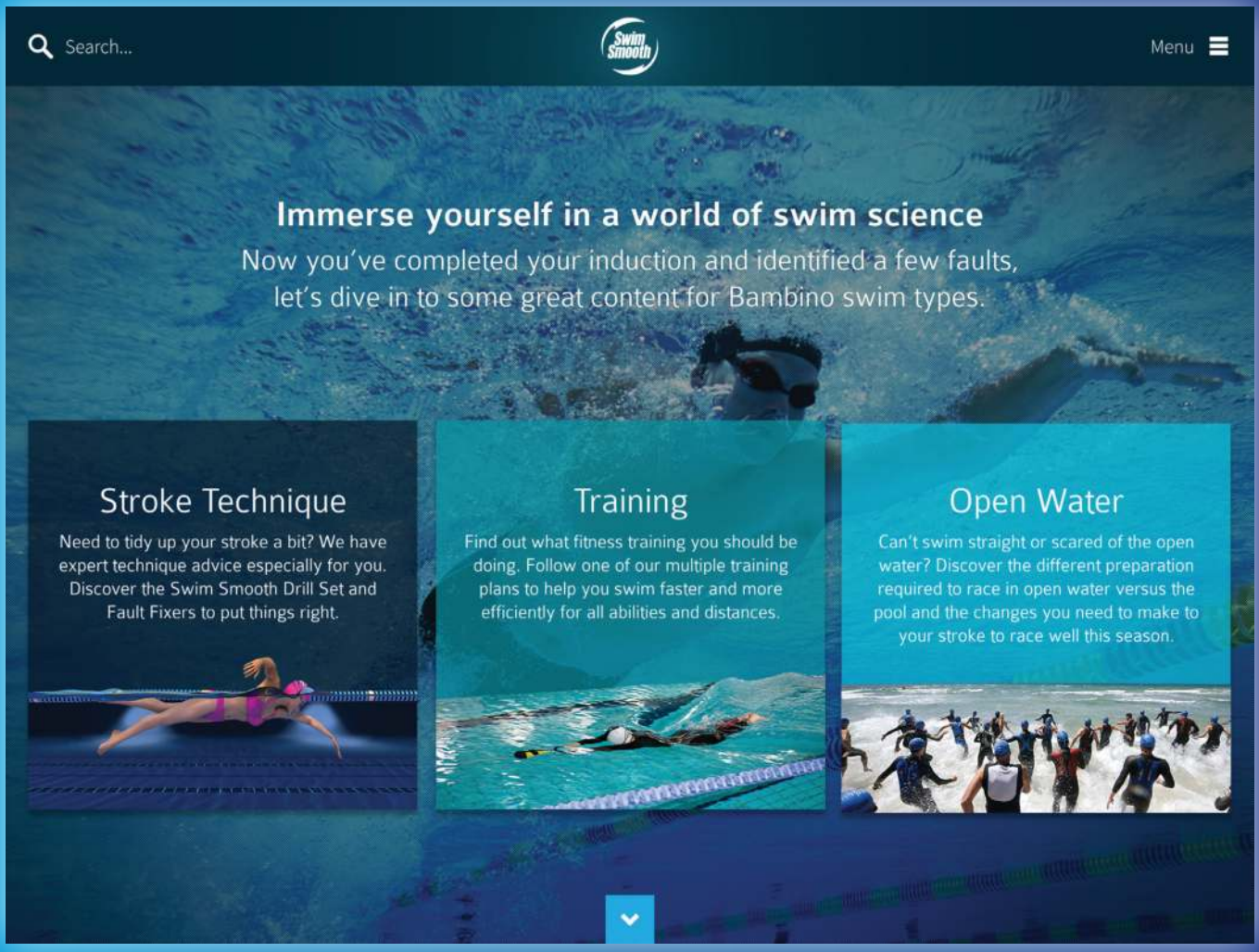

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