Introduction

This document provides a short introduction into the new swim coaching structure we are adopting at the club, which is based on Swimsmooth /British Triathlon coaching philosophy with a few minor tweeks ☺

We know if the swimmers have clear target times, pace awareness and objectives combined with fitness /technique and open water skills sessions their performance will improve over time.

Remember –

- Even beginner swimmers need to have an element of swim fitness training in their training schedule, to allow them to execute and sustain the improved technique they are developing.
- Do not overlook the importance of open water swimming skills. What is the point of improving your 1500 m swim time in the pool by 2 minutes, if all this hard work is lost in an event, by swimming 1800 metres instead of 1500 metres, due to poor sighting, a lack of drafting and not being able to adapt to the open water environment.

The coaching philosophy has no specific periodisation (unlike many running and cycling plans) through a complete training cycle, but alternates through technique, endurance and threshold / CSS sessions. Based on experience this has seen to give the largest benefits in performance over time. The 7 week training cycle we are using is detailed below and caters for swimmers attending one session or both sessions on a particular week.

| Week	Monday Runnymede	Thursday BSV
1	CSS testing	CSS testing
2	Technique	Threshold / CSS
3	Endurance	Technique
4	Threshold / CSS	Endurance
5	Technique	Threshold / CSS
6	Endurance	Technique
7	Threshold/CSS	Endurance

*Open water skills to be introduced from March onwards at the start of endurance sets

It should be noted that unfortunately there is no substitute for training consistency so if possible to make any type of improvement in your swimming you need to be doing a minimum of two or ideally three sessions a week.

"Consider the 3 keys to Swimming Success, Technique, Fitness Training & Open Water Skills"

"Get the balance right and don't neglect any one of the three. Do NOT be afraid to train hard and with a focused goal to develop swim specific fitness"

"Swim Success"

- Technique
- Fitness
- OW skills
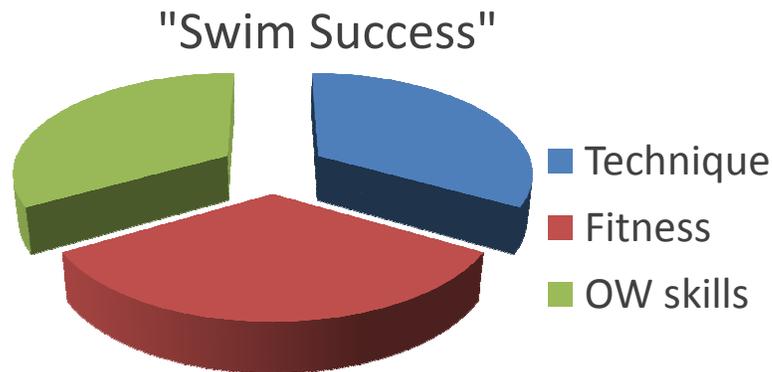
Session essentials

- Please try to arrive at least 10 minutes before the session and go and get changed ready to start for 8.30pm. We only have an hour and there is a lot to pack in.
- Please always bring a pull buoy, fins (long flexible type are best) , paddles (ideally Finis Freestylers and Finis Agilitys), a swim hat. Not essential but good to have is a central snorkel plus nose clip and a Finis Tempo trainer. The club has purchased some of these items for use in the sessions, but dependant on how many swimmers turn up we do not always have enough to go round.
- Do not rush the swim drills and focus on good technique and the purpose for the drill, which will be explained to you. I have produced an accompanying drills overview sheet that will also be on the website that explains the purpose and technique for the drill we will be using.
- Take the correct recovery do get the benefit from the session. There are no prizes for finishing the session first.
- Avoid drafting during the session and maintain at least a 5 metre gap between the swimmer in front if possible.
- Allow faster swimmers to go past you by keeping to the lane rope and stopping at the end of the lane if required.

What is CSS?

As you can see some of the sessions are based on Critical Swim Speed (CSS). This type training focuses on the development of the distance swimmer improving the swimmers ability to sustain their speed over long durations required within triathlon.

If you are a triathlete you probably have a good idea already what your running pace should be over 10 km or how hard to push a 40 km bike time trial. This pace corresponds roughly to Lactate Threshold. This is the point Lactate starts to gather in your blood stream and you start to become anaerobic. If you go faster than this pace you are on borrowed time and soon feel 'burn' in your muscles which will force you to slow down.

CSS is this point in your swimming when you go faster than it, you will have to slow down, but swim at CSS and you will be able to swim 800m, 1500m or even 3000m at this speed if you are well trained. I think of it as the level at which you are "uncomfortably comfortable"

If you improve your lactate threshold and hence your CSS is at a faster speed, **you will** swim faster over a distance event.

CSS testing

We will aim to incorporate a CSS test roughly every 7 weeks to monitor fitness improvements of the athletes. Once we know an athlete's CSS speed i.e. 26 seconds per 25m we can calculate their ideal training pace for threshold, endurance and sprint training.

Swimming lanes will be grouped on a range of CSS times so similar ability swimmers will be in the same lane. As the athletes fitness improves the whole training plan adapts to keep pushing their fitness forwards.

We will distribute the CSS test results at the end of the test week on the club website.

A number of the sessions are based on CSS times **so we will expect swimmers to know their CSS pace per 25m based on their test results. You cannot expect the coach to know each swimmers CSS time.**

The CSS test in summary is a long warm up, 400m time trial, active recovery and a 200m time trial.

It should be noted that your CSS test result in a 25m metre pool will normally be quicker than the same test conducted in a 50m pool due to the increased amount of turns off the wall. As a rough rule of thumb add 0.25 to 0.5 sec per 25m onto your CSS test result, if it was conducted in a 25m pool when you are swimming in a 50 metre pool.

CSS calculation

For the geeks amongst you CSS is calculated as follows-

CSS (m/sec) = (400 -200) / Time (secs) for 400m test - Time for 200m test (secs)

CSS (sec / 100m) = 100/CSS (m/sec)

There is a very useful CSS calculator at the following link if you want to input your own times –

http://www.swimsmooth.com/training.html

Using CSS in the sessions

Clearly it's not practical for the coach to time each of the swimmers to ensure they are maintaining their CSS pace. The onus on each of the swimmers is to start to get use to using the pool clock and Finis tempo trainers and being aware of their own CSS pace (sec/ 25m).

The club have purchased a number of Finis Tempo trainers. These little gadgets are a great training aid which you place under your swim cap and it bleeps at a set time. You are aiming to be at the 25m point when the trainer bleeps. Only the lead swimmer in a particular group will have the tempo trainer.

The recommendation is to set the tempo trainer to bleep at an athlete's CSS (sec / 25m) pace which is a great help in maintaining CSS pace during a session. **We will expect the swimmers to get use to setting the tempo trainers which saves alot of time during the session. Of course the coach will help if you have any issues.**

Many of the swimmers at the moment go off far too fast during a set of intervals and maybe during a race ?? and slow significantly at the end. The Tempo trainer really helps in maintaining an even pace through the interval session.

An alternative to CSS if the swimmer does not know their CSS pace as a rough gauge is -

400m race pace = CSS pace – (2 to 4 sec per 100m)

1500m to 1900m = CSS pace

3.8 km to 5km = CSS pace + (2 to 4 sec per 100m)

CSS Frequently asked questions

Q-Why has a swimmer with a slower 400 metre and 200 metre time got a faster CSS time than me?

A-Remember CSS is a measure of a swimmers ability to sustain a certain threshold speed over distances above 800m. The calculation looks at the time or drop off, in the second 200m of your 400m time trial comparing it to your 200m time trial. So a swimmer who does not slow significantly will have a better CSS time. They essentially have the ability to sustain their threshold pace for longer. A great analogy used by the Swim Smooth guys is

Are you a free revving petrol engine or more of a diesel engine plodder?

The graph below also helps in understanding the point-
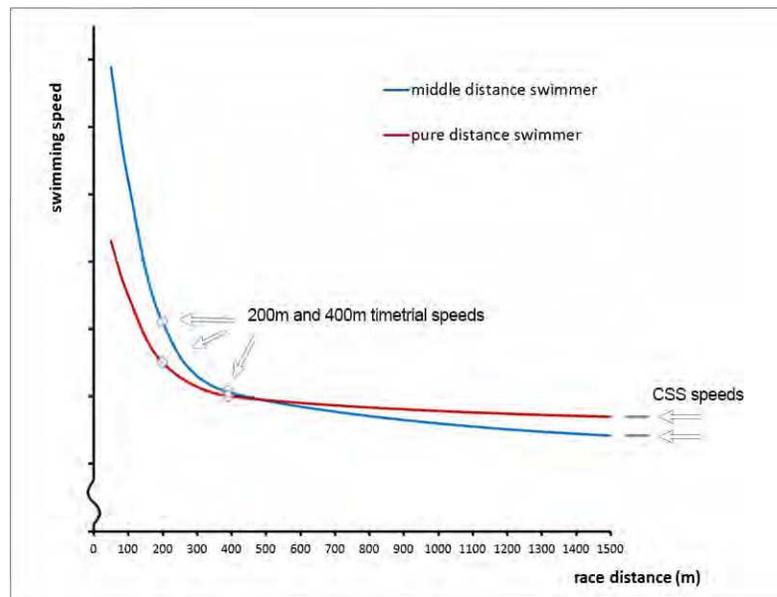
Courtesy of Swim Smooth

Q- Is it important to adjust the tempo trainer to the nearest 0.1 sec per 25m?

A-The answer is a definite Yes. Above 0.1 sec makes a significant difference when swimming longer sets so please adjust your tempo trainer to the exact result from your last test.

I hope this quick summary helps and please do not hesitate to give me or any member of the coaching team a shout if you need to discuss further or have any questions.

It would also be great to get any feedback positive or negative on the new training structure so we can improve for the future.

Many thanks,

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