SurfLifeSavingGB

SURF & BEACH LIFEGUARD
SWIMTECH
POOLSIDE MANUAL

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Surf & Beach Lifeguard SwimTech

The Surf & Beach Lifeguard SwimTech Program was created to raise the general standard of lifeguards, lifesavers and adult athletes through improving stroke technique and fitness by introducing various drills, skills and training.

The overall aims listed below remain the same. The Surf & Beach Lifeguard SwimTech Levels 1, 2 and 3 also include Elementary programme sessions, skills, drills and swimming techniques.

Overall aims:

1. To improve swimming by techniques skills and drills

2. To improve aerobic capacity through a systematic approach

3. Improve swim times as required to pass the RNLI Fitness Standard. Surf Life Saving Great Britain (SLSGB) Surf and Beach Lifeguard Qualifications and or the Surf Life Saver Award

4. Develop underwater skills and fitness as required to pass 25m Under / 25m Over (50sec) included in the RNLI Fitness Standard

5. To improve open water swimming skills

The Surf & Beach Lifeguard SwimTech Pool Side Manual and Design it Your-self (DIY) Sessions are in response to a review of how Surf and Beach Lifeguard skills have evolved and other ways in which the programme can be used.

Surf & Beach Lifeguard SwimTech information has also been used successfully to assist with self-help, self-coaching individuals and groups e.g., triathletes and or for personal fitness and satisfaction.

The Surf & Beach Lifeguard SwimTech Pool Side Manual and Design it Yourself (DIY) sessions explains how to construct aerobic, anaerobic threshold and aerobic overload (anaerobic) training sessions to suit individuals and or groups. It contains examples of warm-ups, preparation, main and supplementary/recovery sets as well as swim downs within a structured time frame. With descriptions of useful terminology and training methods to improve and give variety to the session.

From feedback on how many lifeguards and lifesavers swim train; the following could benefit from the Surf & Beach Lifeguard SwimTech Pool Side Manual and Design it Yourself (DIY) sessions:

- Lifeguard and SLSC coaches designated to design the program and lead sessions.

- Individuals who will 'just get in and swim.'

- Small groups that commence their designated swim session with no structured program.

- Other trainers and coaches looking for a structured system to deliver to their athletes.

- Triathletes and open water swimmers.

Description of Terms and Principles

Swimming Strokes

F/C: Front Crawl

F/S: Freestyle

B/R: Breaststroke

B/K: Backstroke

O/C: Own Choice stroke

Fly: Butterfly

I/M: Individual Medley (mix of strokes in the following order: Fly/BK/BR/FC)

U/W: Under water swimming either B/R (Breaststroke) or Fly kick (Butterfly kick)

Rest Intervals

Pot Boil (Last in first *'GO'*): Can be used in groups of 3 or more, a very simple and easy way of organising the group as follows:

1. **Leader** will *'GO'* followed by next swimmer at 5sec interval and so on until all have started.

2. At the end of designated distance **Leader** waits for the last in the group to finish.

3. **Leader** will *'GO'* again followed by next swimmer until set is completed.

4. As a variation when swimmers are of equal ability, **Leader** can be alternated and or next in line takes turn at leading with previous leader dropping to rear.

Note: Each swimmer should 'GO' at 5sec intervals. However, in large groups the 'GO' interval can be reduced to 2 or 3sec depending on size of the group.

Pace Clock: This is used by more advanced swimmers to regulate rest periods between efforts and sets. (Refer to technical information sheet for further detail).

R5sec: R = Rest and 5sec = 5 seconds.

R10sec: Same as above but 10 seconds rest etc. for 15sec, 20sec, 30sec and so on.

R10-15sec: Two numbers is just the option to use either rest interval as required.

Ad Hoc: Take rest as required.

Non-Stop and Continuous: Mean the same i.e., once started no rest until set completed but rest may be incorporated in the set as per Fartlek and Pyramid sets.

Training Sets

Warm Up (W/Up) Principles

Generally, the **W/Up** should be easy aerobic swimming with an emphasis on correct technique. It is useful to include some variety of strokes and drills. This will help warm up a greater variety of muscle groups.

The Main Set will dictate **W/Up** distance i.e., longer Main Sets such as Aerobic and Anaerobic Threshold types of workouts will usually mean **W/Up** and Prep Sets needs to be adjusted accordingly and vice versa a longer **W/Up** and Prep Set if the Main Set was Anaerobic type sprint work.

Heart Rate (HR) should gradually increase into the lower end of an individual's aerobic training range (See section on Heart Rates and Karounen's Formula). Body temperature should also rise with improved muscular and joint movement.

5-10sec static stretching while resting between W/Up and Prep Set is beneficial if time allows.

Preparation (Prep) Set Principles

During the **Preparation Set** swimmers should continue to increase Heart Rates (HR) into mid to upper aerobic training ranges (See section on **Heart Rates** and **Karounen's Formula**).

Reducing (times/increasing effort): This type of training is a good way of using different energy systems during a set and simulates the effort that may be required in a race, rescue or during the RNLI 200m and 400m Fitness Test swims.

Skill Drills: This term refers to drills that are specific to improving a skill such as related to Front Crawl or Freestyle (F/C) swimming stroke for the 200m and 400m RNLI Fitness Tests, Underwater (U/W) Breaststroke (B/R) for the 50m Under/Over RNLI Fitness Test or Open Water swimming technique essential for rescues in the sea.

Main Set Principles

The **Main Set** is the part of the DIY Session that should have a **Specific** goal, which would **Overload** an individual's energy system creating an **Adaptation**, this will lead to a **Progression** in fitness levels. The majority of examples given in the **Main Set** for the DIY Session are designed to improve an individual's **Aerobic and Anaerobic** capacities needed to achieve the RNLI Fitness Standard and SLSGB Lifeguard Qualifications. This is based on research carried out by Professor Mike Tipton from the University of Portsmouth into fitness standards required by lifeguards.

Various types of swims and efforts are often referred to as either **Aerobic, Anaerobic Threshold** or **Anaerobic** this gives the impression that energy systems are separate and occur in sequence. Actually, all systems contribute with the amount dependant on the speed and distance swum

Fartlek: This is a Swedish term for 'Speed play' and is usually associated with Pyramid type sets, which are a popular form of swim training with lifeguards to achieve distance, and is an excellent way of improving **Aerobic** capacity

Description of Terms and Principles *(cont)*

Supplementary/Recovery Set Principles

The **Supplementary/Recovery Set** can be a mixture of sets that is helping the body recover from the type of overload to the body in the Main Set.

Alternatively, the types of **Skill Drills** that are recommended as **Supplementary Sets** at this stage of the DIY SwimTech® Session are **Hypoxic** and **Open Water** skills.

Hypoxic type swimming drills and sets relate to efforts with reduced amounts of oxygen as required for the 50m RNLI Fitness Test that requires candidates to swim 25m **Under Water (U/W)** and 25 **Sprint** under 50 seconds.

Open Water drill sets help develop skills required by lifeguards to locate and rescue casualties in sea and surf conditions.

Swim Down Principles

Swim Down or also described as a warm down is usually easy **Aerobic** swimming reducing HR into lower training range and helping the removal of lactic acid from muscle groups.

Static stretching is also another beneficial way of helping muscle groups adapt to the training progression and assisting with removal of lactic acid.

Heart Rates

Monitoring Heart Rates

The easiest way of taking your heart rate during swimming training and after efforts is to take your pulse for 6 seconds and add a 0. Using the pace clock that is situated in most swimming pools, place two fingers on your carotid pulse and after counting for 6 seconds you should have an approximate heart rate. For example, 10 beats in 6 seconds then adding a zero = 100 bpm (beats per minute). This method while not exact is accurate enough to give a guideline as to what approximate training level an individual is working at.

Resting Heart Rates

Typically, as a guideline resting heart rates can be taken during periods of inactivity such as while watching TV, after sleep or while relaxing and usually range between 40-75 bpm (beats per minute). To find your resting Heart Rate place two fingers on carotid pulse and count for 60 secs.

Training Ranges

Most of the sessions in this manual while having a strong emphasis on stroke technique are designed to improve an individual's aerobic capacity. And while there is no best way to train energy systems, all training programs should have a *specific* goal, *overload* an individual's energy systems thus creating an *adaptation*, which will lead to a *progression* in fitness levels.

Principles on Aerobic Training Range (see Kurounen's Formula), Anaerobic Threshold and Anaerobic training can be used for not only swimming, but a variety of activities carried out by a Beach Lifeguard such as board paddling, running or even surfing.

Karounen's Formula

Karounen's formula was designed to ascertain an individual's aerobic training range.

Karounen's Formula is as follows:

220 minus your age .... = ...

Then subtract your Resting Heart Rate (take for 60secs) .... = ...

.... **Total** = ...

a) take .... **50% Total =** .... then add **Resting Heart Rate** .... = ...

b) take .... **85% Total =** .... then add **Resting Heart Rate** .... = ...

The figure between a) and b) is an individuals aerobic training range.

Anaerobic Threshold

When a greater effort is required above the aerobic training range this will take the heart rate into the Anaerobic Threshold range. This is usually 10 –30 bpm above the aerobic training range as estimated in Karounen's Formula.

There are great benefits to the aerobic energy systems from this type of training effort but please note that while there must be an overload; in order for adaptation to take place these sessions are recommended to limit to approximately three times a week for the more advanced trainer.

How to Use a Pace Clock

The **Pace Clock** is a very useful piece of equipment during swimming sessions and it is worthwhile to take the time out to understand how to use. (The same principles can apply using your wristwatch if it has a stopwatch function and the pool where you swim does not have a pace clock).

The **Pace Clock** is actually quite simple to use and allows the swimmer and or group to swim at variable rest intervals or times. The typical **Pace Clock** as pictured above has a Red Hand and Black (or Blue) Hand and is divided into 5 second increments from 5–60 seconds

The following examples have been modified to reflect metric distances but are mostly from an article by Hazen Kent–Tri Newbies Online called Learning to Use the Pace Clock During Your Swimming Workouts
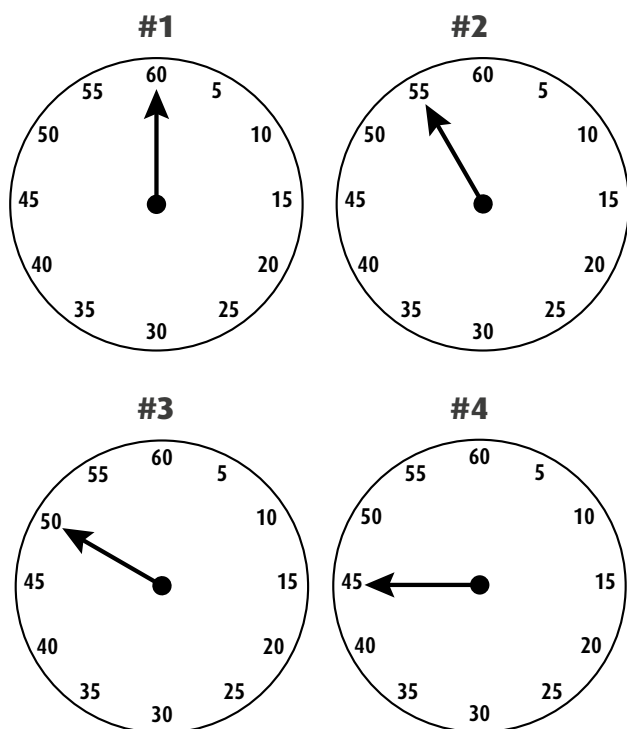
Example 1: The simplest interval sets to understand are those given on even minute counts such as a set of 50m F/C on the one minute or a set of 100m F/C on the two

minutes. For example, let's say you are given the swim set: 10 x 50's F/C on "the minute" (or: 60 seconds). This would mean you would be swimming 10 x 50's F/C every minute. Regardless of the point on the clock from which you begin the set, you will leave at that same point for each swim in that set. If you are attending a coached session and the trainer instructs the swimmers to "leave on top" would begin the set when either the Red Hand or Black Hand reaches the 60. And because one turn of the nominated hand represents one minute, you would leave on the **60** for each 50m F/C in that set (if you are training alone, and the set calls for 10 x 50's on the minute, the most common place to leave is the 60 as well). Note, the total set will take 10 minutes. This type of interval set is excellent when trying to maintain a particular pace during that set. In keeping with our example above, if you are swimming 10 x 50's on the one minute – leaving on the 60 - and you want to hold 35 seconds on each swim. This would allow you 25 seconds rest before leaving to swim the next 50.

Example 2: It's comfortable and convenient to have an interval that leaves at the same time and at the same position on the clock each time. However, as your swimming improves, so should the challenge. And this means a faster, and perhaps more difficult interval. For example, let us say the particular set in your workout calls for 10 x 50's F/C on: 55 seconds. Now, things begin to get a little confusing... or do they? You may think that this would be a difficult interval to follow, because it is not a nice round number on which to leave as mentioned in the example above. However, this type of interval (although challenging physically) will actually prove easy to follow on the pace clock. Furthermore, it will help you keep count of the 50's you have completed in your set. In keeping

with the example above, let us say the set calls for you to leave or begin "on the top" or "on the 60." Remember, one entire loop around the clock from any point on the clock represents: 60 seconds. For a set of swims on the: 55 seconds, you would leave 5 seconds sooner for each swim. Refer to the example below.

50's F/C on the: 50 seconds. Leaving at the top.
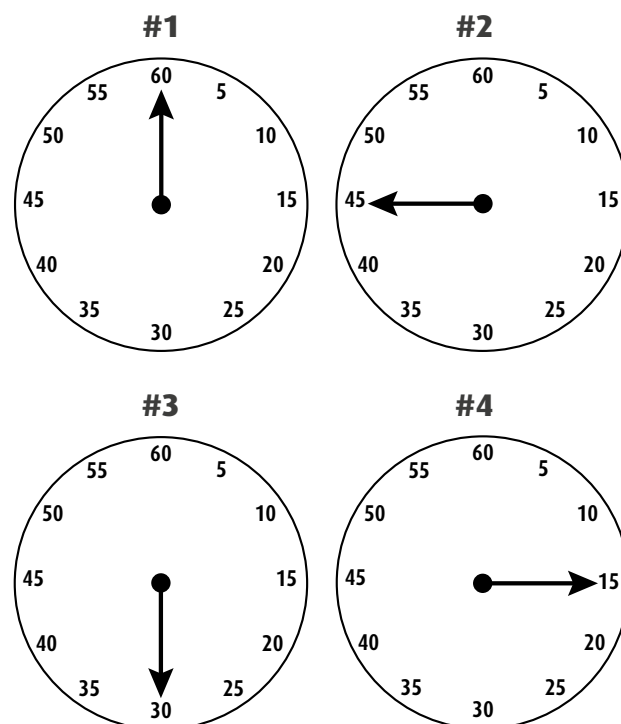
#1

#2

#3

#4

The set called for the swimmers to leave on the "60" which represents your first swim of that set. Because the set is on the 55 seconds, you would leave on the "55" for number two. For number three, you would leave on the "50." For number 4, you would leave on the "45" and so on. Do you see the pattern developing? If for example, you are half way through the set and loose count of the 50's you have completed...in just a matter of

seconds you can find the answer. Simply begin counting from the point at which you began the set (in this case on the 60) and count backwards 5 seconds for each 50 freestyle you have completed up to the time you are supposed to leave. This is especially helpful for larger sets like 20 x 50's or 30 x 100's.
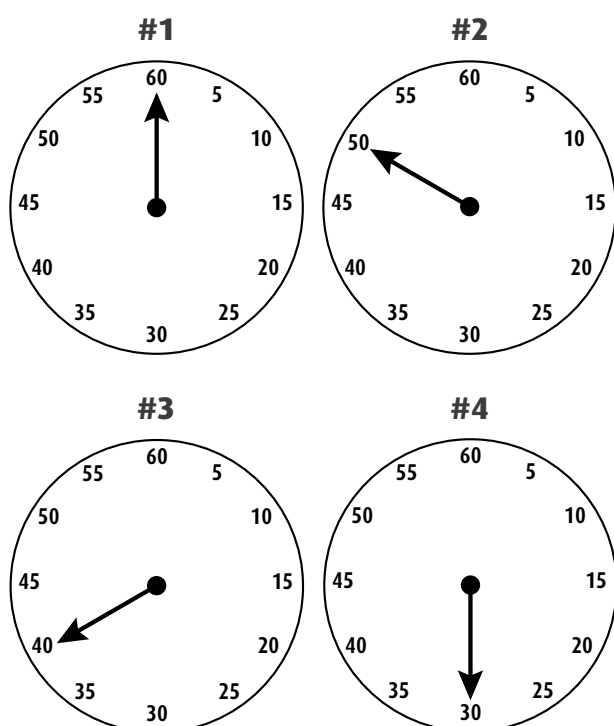
Example 3: **50's F/C on the: 45 seconds. Leaving at the top.**

For the first 50 freestyle, you would leave on the 60; for #2 you would leave on the 45; #3 on the 30; #4 on the 15 and so on. Do you see the pattern? You are simply leaving 15 seconds earlier each time. And to keep count of your set, you would count back 15 seconds starting at the 60 for each 50 completed.

#1

#2

#3

#4

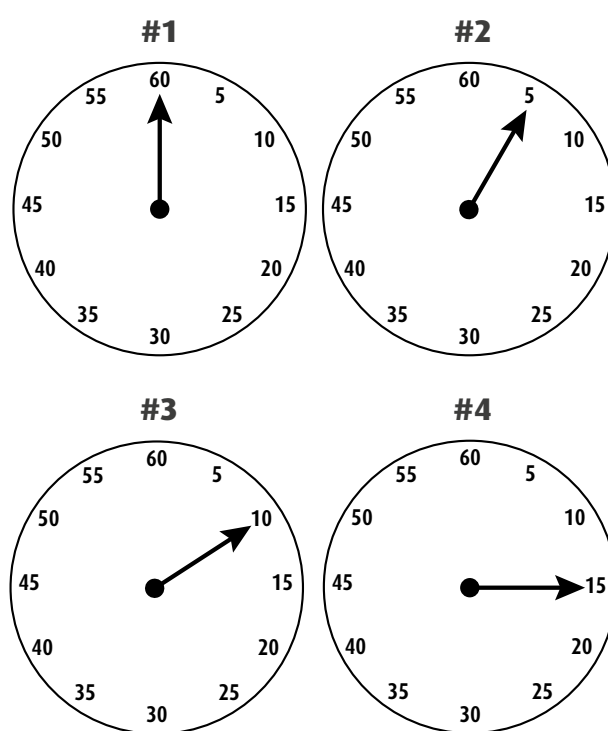## Example 4: 100's F/C on the 1:50 leaving at the top.

Although this set represents a set of 100's, nothing changes with regards to reading the clock. For the first 100 freestyle you would leave on the 60; for #2 you would leave on the 50; #3 you would leave on the 40; #4 you would leave on the #30 and so on. Do you see the pattern? You are simply leaving 10 seconds earlier on the clock for each 100. To keep count of your set, you would count backwards 10 seconds starting at the 60 for each 100 completed.

#1   #2

#3   #4

Example 5: 50's on the 1:05 leaving on the top.

For the first 50, you would leave on the 60; for #2 you would leave on the 5; for #3 you would leave on the 10; for #4 you would leave on the 15 and so on. Do you see the pattern? You simply leave 5 seconds later on each swim.

As stated earlier, the pace clock is actually a very easy instrument to understand and necessary for your swimming. Besides being a crucial tool for assessing your improvement, it also provides a means of keeping track of your swim times and swims. If your pool does not have a pace clock, you can use the stopwatch function on a watch.

#1   #2

#3   #4

Timed Swims

Award	Competency Test	Task Competency
1. Surf Lifeguard	400m – 7:30 mins swim	Board 300m out and back Tube 150m out and back
2. Beach Lifeguard	400m – 8:00 mins swim	Board 250m out and back Tube 150m out and back
3. Inland Waters Lifeguard	400m – 8:00 mins swim	Board 250m out and back Tube 150m out and back
1. Surf Lifesaver	400m – 9:30 mins swim	Board 200m out and back Tube 100m out and back

For Awards numbered 1-4 the task competency is based on recovering an **unconscious casualty** from a point of departure, to a safe point where medical support can be provided within the 10 Minute Rule. In the case of an unconscious casulaty rescue, this is time sensitive as speed is of the essence.

This is all from the National Safety Guide slsgb.org.uk/wp-content/uploads/SLSGB-National-Safety-Guide.pdf

Ocean swim times

During Covid 19, the below times for ocean measured swims were introduced:

- **Surf Lifeguard:** Wetsuit - 8mins, **No** wetsuit - 8.30mins

- **Beach Lifeguard/Surf Coach Rescue/ Inland Water Lifeguard:**

  Wetsuit – 8.30min, **No** wetsuit – 9mins

- **Surf Lifesaver:** Wetsuit – 10mins, **No** wetsuit 10.30mins

RNLI Fitness Standards

Please note that the following is the essential RNLI Fitness Standard that all operational lifeguards are required to pass prior to commencement and at designated dates as required during the operational season.

- **200m F/S Swim:** under **3min 30sec**

- **400m F/S Swim:** under **7min 30sec**

- **50m Under/ Over:** (25m Underwater/25m Swim) under **50sec** (description below)

- **200m Run:** under **40sec**

- **50m Under/ Over:** (made up of 25m Underwater/25m Swim)

RNLI 50m Under / Over Test

The pacing of this type of swim is clearly divided into two sections with the main technique for the underwater phase being underwater breaststroke. For the more advanced swimmer, butterfly kick with the body in a streamline position is used to gain speed. Whichever of these methods is used efficient technique and relaxation are essential but the following advice can also be followed:

- Without hyperventilating take several good breaths and try to relax the body

- Either using the Pace Clock or when the Trainer says 'GO' try to get a good streamline push off (see attached information on Freestyle Touch Turns the push off shown is the same principle)

- As your initial momentum slows commence underwater B/R stroke (refer to attached information on Underwater Breaststroke Pull) This is a 'key hole' pull followed by Breaststroke Kick as the arms recover by sliding up and under centreline of body

- Note: Underwater dolphin or butterfly kick, while in a streamline position (arms forming an arrowhead above head) is the fastest method but should only in most circumstances be undertaken by advanced swimmers

- Stay relaxed and keep eyes looking at the bottom and only let the air 'drift' out slowly

- As you get towards the **T** at the other end start to time your surface

- Take a breath as you turn and try to get a good streamline push off

- Sprint back you will be surprised how much energy you will have as it uses a totally different energy system

- Hypoxic swimming such as underwater lengths should only be done sparingly and under supervision as there is a risk of losing consciousness due to hypoxia

PLEASE NOTE: Assessors and candidates during the RNLI Fitness Test for the 25m underwater swim requirement, if a candidate is unsuccessful after 2 attempts to complete the 25m underwater assessment **NO FURTHER ATTEMPTS SHOULD TAKE PLACE** that day. The Lifeguard Supervisor or Manager should then arrange an alternative day and time to reassess.

How to Pace Swims

The correct strategy on how to swim in any event can mean the difference between success and failure in your race or timed swim. Many competitors have adopted the wrong strategy in the past with poor results. The main problem is that the athlete goes much too fast at the beginning and quickly fatigues due to lactic acid build up in the required muscle groups. The body then needs to slow to an aerobic pace where the body can reduce the amount of lactic acid before picking up speed again. This is sometimes referred to as a 'second wind', unfortunately for many swimmers there is not enough time for the body to recover and valuable time and distance is lost.

A good example of what lactic acid feels like, that most of us have experienced 'is when you run up several flights of stairs and quite quickly your legs turn to jelly'! The first thing you do is slow down to give the body a chance to recover and get rid of the lactic acid.

The following are some guidelines on how best to pace swims by breaking up into smaller sections aiming for a **negative split** (see below for details):

- Get a good efficient start!

- First put in several hard strokes to get momentum up (the body stores explosive energy for about 5sec).

- Once you have positioned yourself try to ease back, relax. Ideally get into a rhythm for approximately the first quarter of the distance and concentrate on technique such as count strokes or think about pulling under the body efficiently. Throughout this phase if in open water, occasionally use the **'directional swimming' skills** to make sure you are taking the most efficient route.

- During the second ¼ of the swim if you feel able, start to increase speed again gradually!

- After about halfway the third phase of the distance is probably the most important part of the swim where you should try to pick up your effort!!

- Over the final part of the swim attempt to hold a maximum even pace to the end, always trying to maintain good technique throughout!!!

- **N.B.** Of course, if your swim or board paddle is a rescue-related response, the rescuer will want to react and respond as soon as possible to make contact with the casualty ('s) and control the situation.

NOTE: As previously stated in the case of an unconscious casualty rescue, recovering an **unconscious casualty** from a point of departure to a safe point where medical support can be provided within the 10 Minute Rule. This is time sensitive, and speed is of the essence. However, it is still vital not to get incident 'myopia' (tunnel vision/lack of foresight) and to expend all your energy reserves before reaching the casualty.

Negative Splits and Even Paced Swimming

What is a Negative Split?

A **Negative Split** is when the second ½ of a race/effort is faster than the first ½ half.

Most World Records for swimming distances of 200m, 400m and 800m are paced as **Negative Splits**. See examples below (plus allowing for a dive) all these World Records would be swum as **Negative Splits**.

The 1500m (also Olympic triathlon distance) example while also a **Negative Split** is an excellent example of even paced swimming, this type of pacing **'like a needle on a record'** (re: on an old vinyl record player) at a maximum even pace should be used particularly for longer events such as 800m and 1500m.

While obviously the examples below are from world class swimmers of the highest calibre and those incredible times can only be dreamed of by most mere mortals! The principle of a negative split and even paced swimming strategies can still relate to anyone swimming these types of distances for a time or in a race.

World Records examples (50m pool)

Distance	Time	Name	Country	Date	Place
200 free	1:42.96	Michael Phelps	USA	12-08-2008	Beijing, China
Split(s): 0:24.31 - 0:50.29 - 1:16.84					
400 free	3:40.08	Ian Thorpe	AUS	30-07-2002	Manchester, England
Split(s): 0:53.02 - 1:49.57 - 2:45.43					
400 free	3:40.07	Paul Biederman	GER	26-07-09	Rome, Italy
Split(s): 26.29, 54.42 (28.13), 1:22.43 (28.01), 1:51.02 (28.59), 2:18.78 (27.76), 2:47.17 (28.39), 3:14.30 (27.13), 3:40.07(25.77)					
Note: 1st 200 – 1:51.02, 2nd 200 – 1:49.05					

Note: While Ian Thorpe swum a negative split (if the dive is taken into consideration) his 1st 200m was 1:49.57 with the 2nd 200m being 1:50.51 to record 3:40.08 in 2002.

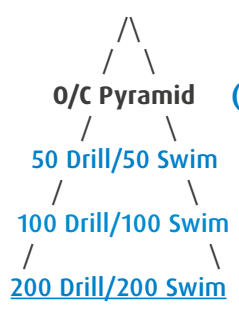The current 400 F/S men's world record 3:40.07 (as of 2023) set by Paul Biederman is only one hundredth of a second quicker than previous holder Ian Thorpe's 3:40.08. It is interesting to see Paul's 2nd 200m (1:49.05) was nearly 2 seconds quicker than his 1st 200m (1:51.02), including a dive!

Distance	Time	Name	Country	Date	Place
1500 free	15:25.48	Katie Ledecky	USA	04-08-15	Kazan, Russia

Split(s): 28.37, 59.04 (30.67), 1:29.68 (30.64), 2:00.52 (30.84), 2:31.43 (30.91), 3:02.46 (31.03), 3:33.64 (31.18), 4:04.69 (31.05), 4:35.93 (31.24), 5:06.89 (30.96), 5:38.09 (31.20), 6:09.19 (31.10), 6:40.29 (31.10), 7:11.38 (31.09), 7:42.37 (30.99), 8:13.25 (30.88), 8:44.15 (30.90), 9:15.26 (31.11), 9:46.27 (31.01), 10:17.23 (30.96), 10:48.11 (30.88), 11:19.24 (31.13), 11:50.24 (31.00), 12:21.24 (31.00), 12:52.38 (31.14), 13:23.42 (31.05), 13:54.52 (31.09), 14:25.62 (31.10), 14:56.46 (30.84), 15:25.48 (29.02)

Note: Excepting 1st 50m = 28.37 (with a dive) every 50m, a further 29 x is between 29.02 and 31.20.

Surf & Beach Lifeguards – Design it Yourself (DIY) 1hr SwimTech

Warm Up (W/Up)	Examples, Description and Effort % Required N.B: Use only one of the following examples and/or as a guideline	Rest Interval	Distance and Time Allowed
(Approx 5-15min with distance swum between 250–800m) • Easy aerobic swimming • Gradually increase effort and Heart Rate (HR) • Correct technique • Variety of strokes and drills • Adjust distances to suit Main Set • 5-10sec easy static stretching • Maintain Hydration (Drink water or sports drink) Especially for drills consider using swim fins (except Breaststroke), kick boards, hand paddles and even snorkels (Check this is allowed at your local Swim Pool)	• **4 x 75 F/C and 25 B/K** .... **(Effort 40-50%)** (F/C could be Bi-lateral breathing Finger Drag)	**Non-Stop**	400m (8-10min)
	• **4 x 200 F/C** .... **(Effort 40-50%)** 1. Pull .... 200m 2. Drill .... 200m 3. Kick .... 200m (Fins optional) 4. Swim 200m	**10-15sec** Or (During change over of equipment)	800m (16-20min)
	• **500 F/C** .... **(Effort 40-50%)** (Alternate 100 swim / 100 drill O/C (own choice))	**Non-Stop**	500m (10-12min)
	• **600 F/C** .... **(Effort 40-50%)** (Every 4th lap each 100m 25m O/C or F/C drill)	**Non-Stop**	600m (12-15min)
	/\\ / \\ **O/C Pyramid** **(Effort 40-50%)** / \\ **50 Drill/50 Swim** / \\ **100 Drill/100 Swim** / \\ **200 Drill/200 Swim**	5-10sec after each section **Or** **Non-stop**	700m (14-18min)
	• **300- 800 F/C** .... **(Effort 40-50%)** (Every 4th 25m optional O/C (not F/C)) (Note: Distance dependent on Main Set)	**Continuous**	Distance and Time allow depends on Main Set
	Note: For further sets use your imagination. E.G. for most sets particularly drills consider using swim fins (excepting Breaststroke), kick boards, hand paddles and even snorkels (Check this is allowed at your local Swim Pool). Don't worry if some sets don't work sometimes it will be a case of *'trial and error'*. **Also, there are more programs and sets to refer to in the SwimTech Levels 1, 2 and 3.**		

Surf & Beach Lifeguards – Design it Yourself (DIY) 1hr SwimTech

Preparation (Prep)	Examples, Description and Effort % Required N.B: Use only one of the following examples and/or as a guideline	Rest Interval	Distance and Time Allowed
Set (Approx 5-15min with distance swum between 200-1000m) · Continue to increase HR · Use of Pace Clock and Interval-based Training · Introduce some speed/ sprints · Reducing time/ increasing effort · Skill Drills · Maintain Hydration (Drink water or sports drink) **Especially for drills consider using swim fins** (except Breaststroke), kick boards, hand paddles and even snorkels **(Check this is allowed at your local Swim Pool)**	• **2 X 4 X 50**.................................**(Effort 50-80%)** **1 – 4 Reducing (time/ increasing effort)** **1. Easy** **2. Medium** **3. Hard** **4. Race Pace**	**Pace Clock every 60sec Or Rest 5-10sec Or Pot Boil** Last in 1st **'GO'**	400m (8-12min)
	• **8 X 25 F/C**.................................**(Effort 50-70%)** Alternate 25 Fists / 25 Stroke Count Y Stroke Count IE: count strokes each 25m Y Swim each 25 Stroke Count as 1-4 Reducing Y Hold stroke count as speed increases	**Pot Boil** Last in 1st **'GO'**	200m (5-10min)
	• **4 X 3 X 75 O/C**...............................**(Effort 50-60%)** **75 Pull / 75 Swim / 75 Kick** Y After 75 leave Pull Buoy at odd end Y Swim 75 pick up Kickboard Y Kick 75 should be back to Pull Buoy end Y Swap Kickboard with Pull Buoy – **Repeat x 4** **Y All equipment should finish at start end**	**5-10sec** (As Pull Buoy and Kickboard swapped)	900m (18-20min)
	Either of the following aerobic type sets: · **16 X 50 F/C**.................................**(Effort 50-60%)** **Note:** Depending on ability using pace clock - Allow approx 5-10sec rest each 50m (EG shown-rest with repeats @ 60sec ea 50m)	**Pace Clock every 60sec Or Rest 5-10sec**	800m (16-18min)
	• **8 X 100 F/C**.................................**(Effort 60-70%)** **Note:** Depending on ability using pace clock - Allow approx 10-15sec rest each 100m (EG shown-rest with repeats @1m50sec ea 100m)	**Pace Clock every 1m50sec Or Rest 10-15sec**	800m (16-18min)
	• **4 X 200 F/C**.................................**(Effort 60-75%)** **Note:** Depending on ability using pace clock - Allow approx 15-20sec rest each 200m (EG shown-rest with repeats @3m45sec ea 100m)	**Pace Clock every 3m45sec Or Rest 15-20sec**	800m (16-18min)
	• **10 – 15mins Turn Practice**...............**(Effort 50-60%)** Y Concentrate on technique Y Refer to Turn Technical Information Card Y Increase speed as technique improves **Y Ideal set for group session before 400m test swim. Efficient turns save 15-30secs+**	**Ad hoc** (As required)	Approx 250m (10-15min)

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Main Set	Examples, Description and Effort % Required	Rest Interval	Distance and Time Allowed
	N.B: Use only one of the following examples and/or as a guideline		
(Approx 20-30min with distance swum between 800-1500m) • **Specific** (Which energy systems to train) • **Overload** (Provide training stimulus) • **Aerobic** (Improve base fitness) • **Anaerobic Threshold** (Energy system needed in 400m swims) • **Anaerobic** (Improves lactic acid tolerance) • **Use of Pace Clock** and Interval-based Training • **Race Pace** • **Timed swims and Test Sets (200m (3.30min) and 400m (7.30min) RNLI Fitness Tests)** Refer to SwimTech Levels 1,2 and 3 Test Session • **Fartlek** (Swedish term for 'speed play' associated with endurance type training of at least 15mins such as pyramids) • Variety to achieve aims • Maintain Hydration (Drink water or sports drink) Consider using swim fins (except Breaststroke), hand paddles and pull buoys **(Check this is allowed at your local Swim Pool)**	/\\ **F/C Pyramid (Effort 75-100%)** / \\ **25 Hard** - **25 Easy** / \\ **50 Hard** - **50 Easy** / \\ **100 Hard** - **100 Easy** / \\ **200 Hard** - **200 Easy** \\ / **100 Easy** - **100 Hard** \\ / **50 Easy** - **50 Hard** \\ / **25 Easy** - **25 Hard** \\/ Either of the following **Aerobic** or **Anaerobic Threshold** type sets dependent Rest and Effort **(Note: Similar to Prep Set but increase effort)**	**Fartlek Set Continuous** IE Easy swims are rest **Or** **Group session** **Pot Boil** Last in 1st *'GO'* **Or** On way up R5@25 easy R10@50 easy R15@100 easy R20@200 easy On way down R20@100 hard R10@50 hard R5@25 hard	1100m (22-25min) **Or** (25-30min) **Or** (25-30min)
	• **16 X 50 F/C** .... **(Effort 75-100%)** **Note:** Depending on ability using pace clock allow approx 5-10sec rest each 50m (EG shown-rest with **Repeats** @ 50sec ea 50m) **Or** Alternative as 4X4X50 F/C: 1–4 Reducing ea 50m EG: **1 Easy**/**1 Med**/**1 Hard**/**1 Race Pace X 4** Add 10sec Rest to Pace Clock **Repeats** **Or** (Alternative as 4X4X50 F/C: Reducing ea 'block' 4X50 with Pace Clock **Repeats** dependent ability (See example **Repeats** in Rest column)	(Add or reduce **Repeats** Re: ability) **Pace Clock every 50sec Or Rest 5sec** **Pace Clock every 60sec Or Rest 5-10sec** **4X50@65sec** **4X50@60sec** **4X50@55sec** **4X50@50sec**	800m (16-20min)
	• **8 X 100 F/C** .... **(Effort 75-100%)** **Note:** Depending on ability using pace clock allow approx 10-15sec rest each 100m (EG shown-rest with repeats @1m40sec ea 100m) **Or** Alternative as 2X4X100F/C: 1–4 Reduce ea 100m EG: **1 Easy**/**1 Med**/**1 Hard**/**1 Race Pace X 2** Add 10sec Rest to Pace Clock **Repeats** EG: ea 100m @ 1.50sec	**Pace Clock every 1m40sec** **Or** **Rest 10sec** **Pace Clock every 1m50sec** **Or** **Rest 10-15sec**	800m (16-20min)
	• **4 X 200 F/C** .... **(Effort 75-100%)** **Note:** Depending on ability using pace clock allow approx 15-20sec rest each 200m (EG shown-rest with repeats @3m30sec ea 100m) **Or** Alternative as 4X200F/C: 1–4 Reduce ea 200m EG: **1 Easy**/**1 Med**/**1 Hard**/**1 Race Pace** Add 10sec Rest to Pace Clock **Repeats** EG: ea 200m @ 3.45sec	Pace Clock every 3m30sec Or Rest 15sec Pace Clock every 3m45sec Or Rest 15-20sec	800m (16-20min)

Surf & Beach Lifeguards – Design it Yourself (DIY) 1hr SwimTech

Supplementary/ Recovery Set	Examples, Description and Effort % Required N.B: Use only one of the following examples and/or as a guideline	Rest Interval	Distance and Time Allowed
(Approx 10min with distance swum between 200-800m) • Type of set dependent on Main Set (IE Anaerobic Threshold type Main Set) then Recovery type swimming/ lactic acid reduction. • Skill Drills • Sprints (Anaerobic and Hypoxic) • 25 Under / 25 Over (Practice swims) • Recovery type swimming (Gradually reduce HR into lower Aerobic Training Range) • Lactic acid reduction • Maintain Hydration (Drink water or sports drink) **Especially for drills consider using swim fins (except Breaststroke), hand paddles, pull buoys and even snorkels** **(Check this is allowed at your local Swim Pool)**	• **8 X 25 Sprints with dive** .... **(Effort 75-80%)** (Depending on being allowed to dive)	**Walk backs** (Rest during walk back to deep end)	200m (10-12min)
	• **4 X 50 Drills** .... **(Effort 50-70%)** (Underwater (U/W) B/R or Fly skills) 1. **5m (¼ Length) U/W - 45m O/C Easy** 2. **12½m (½ Length) U/W – 37½m O/C Easy** 3. **20m (¾ Length) U/W – 30m O/C Easy** 4. **25m (Full Length) U/W – 25m O/C Easy**	**Pot Boil** Last in 1st **'GO'** **Or** **Ad hoc** (As required)	200m (10-12min)
	• **4 or 6 X 100 Medley I/M** .... **(Effort 50-70%)** 1. 25 Butterfly (Fly) or F/C 2. 25 Backstroke (B/K) 3. 25 Breaststroke (B/R) 4. 25 Front crawl (F/C) (Note: If swimmer doesn't want to do Fly substitute F/C for Fly)	**Pot Boil** Last in 1st **'GO'** **Or** R15-20sec	400-600m (10-12min) and or Depend on time remaining
	• **200–300 Kick O/C** .... **(Effort 50-70%)** (Every 4th 25m not F/C)	**Continuous**	200-300m (Approx 5min)
	• **4 X 75 Head Up/ Head Down** .... **(Effort 75-80%)** Alternate **25 Head Up/25 Head Down/25 Head Up**	**R20-30sec**	300m (8-10min)
	• **250 F/C Hypoxic** Breathe **2/4/6/8** or **3/6/9** (bi-lateral) Strokes - Repeat Swim at slow speed - concentrate on breathing pattern	**Continuous**	250m (5min)
	• **Practice 25 Under 25 Over** .... **(Effort 75-100%)** (Target Time 50sec = RNLI Fitness Test pass) **N.B: Maximum repeats 3x only**	**Ad hoc** (As required)	50-150m (5-10min)

Swim Down	Examples, Description and Effort % Required N.B: Use only one of the following examples and/or as a guideline	Rest Interval	Distance and Time Allowed
(Approx 5-10min with distance swum between 100-500m) • Easy Aerobic reducing HR into lower training range • Maintain stroke technique • Removal of lactic acid • Multiple muscle groups • Maintain Hydration (Drink water or sports drink) • Variety 10sec Static Stretching at the very end	• **200 – 300 O/C** .... **(Effort 40-50%)** (Easy O/C including Drills)	Non-Stop	200-300m (5min)
	• **4 X 100 O/C** .... **(Effort 40-50%)** 1. 100 O/C Pull 2. 100 O/C Drill 3. 100 O/C Kick 4. 100 O/C Swim	Continuous **Or** (R5 as equipment changed)	400m (5-10min)
	• **8 X 50 F/C Pull or Swim** .... **(Effort 40-50%)**	Pace Clock every 60sec **Or** Rest 5-10sec	400m (8-10min)

For further examples of swim sets, drills and technical information refer to SwimTech Levels 1,2 and 3

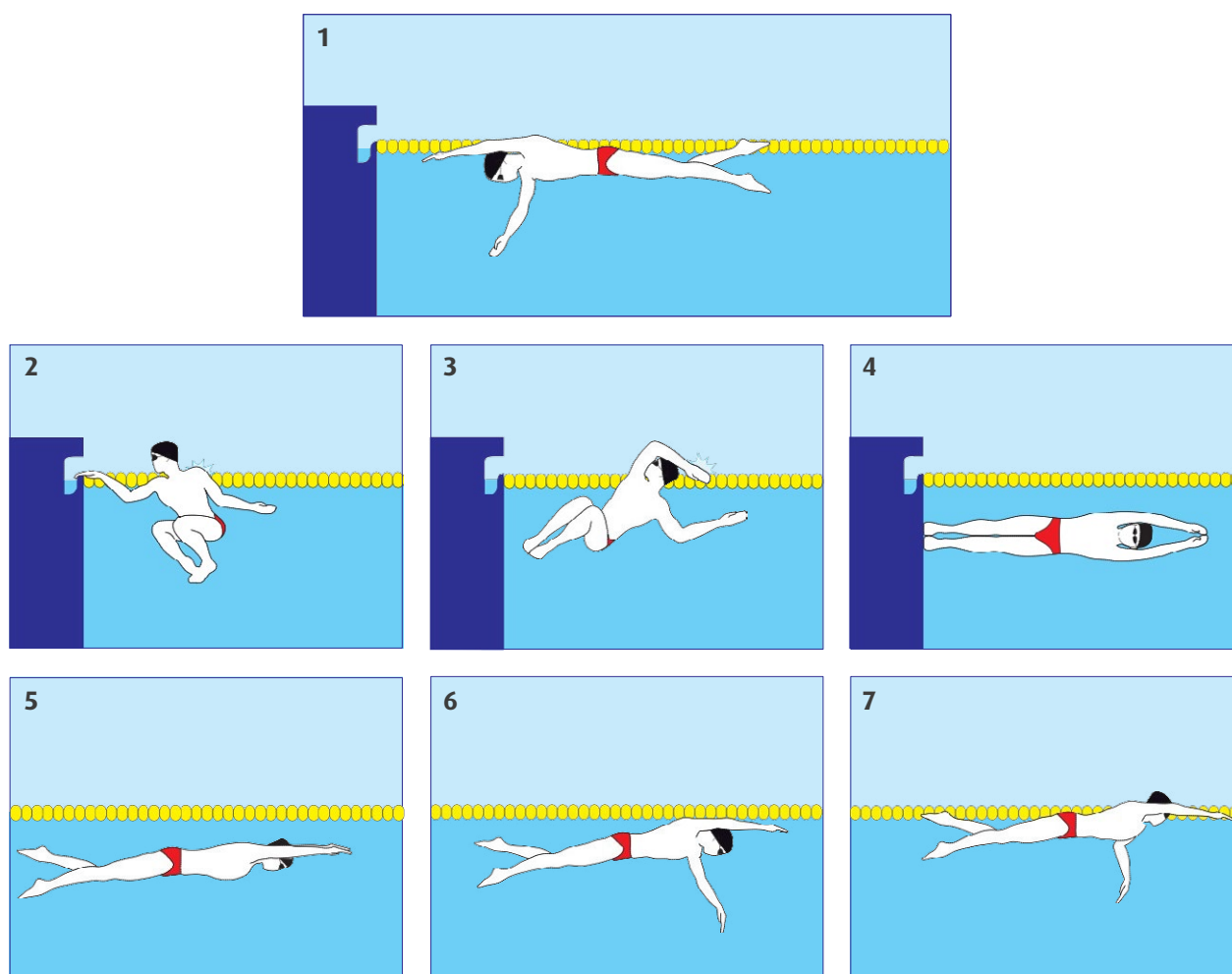# Surf & Beach Lifeguards – Design it Yourself (DIY) 1hr SwimTech

DIY SwimTech Template N.B: From the Example Sets use only one and/or as a guideline for each set & Effort %			
Warm Up (W/Up) (Approx 5-15min with distance swum between 250– 800m)	**Description and Effort % Required**	**Rest Interval**	**Distance and Time Allowed**
Preparation (Prep) Set (Approx 5-15min with distance swum between 200-1000m)	**Description and Effort % Required**	**Rest Interval**	
Main Set (Between 20-30min with distance swum between 800-1500m)	**Description and Effort % Required**	**Rest Interval**	
Supplementary/Recovery Set (Approx 10min with distance swum between 200-800m)	**Description and Effort % Required**	**Rest Interval**	
Swim Down (Approx 5-10min with distance swum between 100-500m)	**Description and Effort % Required**	**Rest Interval**	
			Total Session

Surf & Beach Lifeguards – Design it Yourself (DIY) 1hr SwimTech

SwimTech

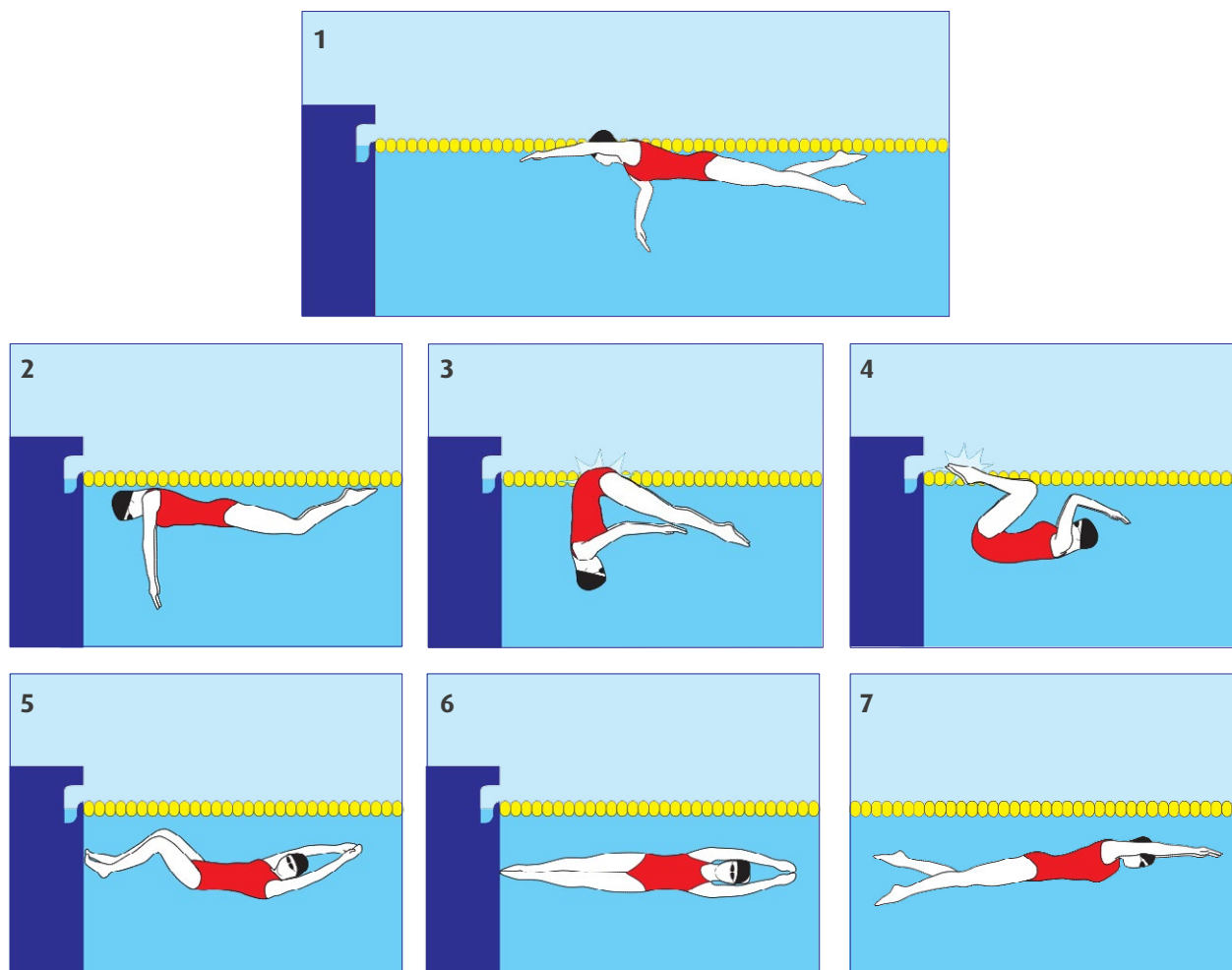## Surf & Beach Lifeguards - Freestyle Touch Turn

Description

1. Use the lane line black line and 'T' to time your stroke to the wall.

2. As you take a breath, tuck legs into 'sitting' position. One arm will make contact with the wall. The other arm points in the direction you want to go.

3. When the feet are approaching the wall, release contact arm and slide it back overhead and enter water close to ear to meet the other arm. The head follows the hand into the water with the other hand pushing up to help the head come down.

4. The most efficient way is to then push off the wall on your side.

5. Kick to the surface, initially below the surface to avoid the following wave. Keep your head down and maintain a streamline position.

6. Surface at approximately the backstroke flags but commence the first arm stroke while still underwater and in a streamline position.

7. Your head breaks the surface as the first arm stroke is completed. Try not to breathe on the first stroke.

SwimTech
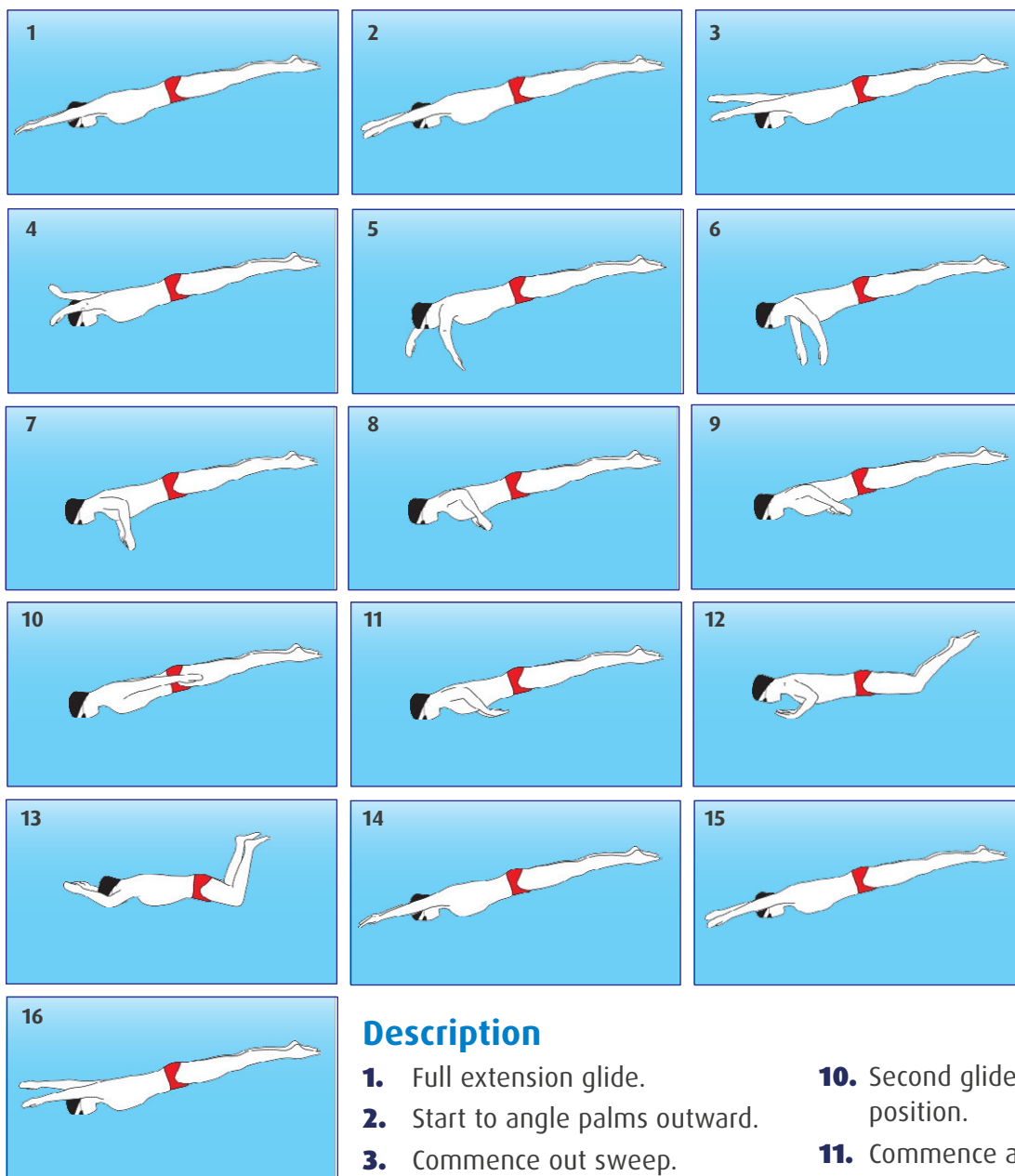
Surf & Beach Lifeguards - Freestyle Tumble Turn

Description

1. Use the lane line black line and 'T' to time your stroke to the wall without reducing speed. Do not breathe on the last stroke before turn.

2. As you complete the last stroke, nod or duck your head down. Dolphin kick and leave the other hand by your side.

3. Complete the dolphin kick and then pull the hands with palms facing towards your head.

4. Tuck your legs in towards the chest. Bring your head back up towards the surface as soon as possible.

5. Position your arms overhead before your feet hit the wall. Push off immediately transferring the momentum.

6. The most efficient way is to then push off the wall on your side.

7. Kick to the surface, initially below the surface to avoid the following wave. Keep your head down and maintain streamline position.

SwimTech

Surf & Beach Lifeguards - Underwater Breaststroke Pull

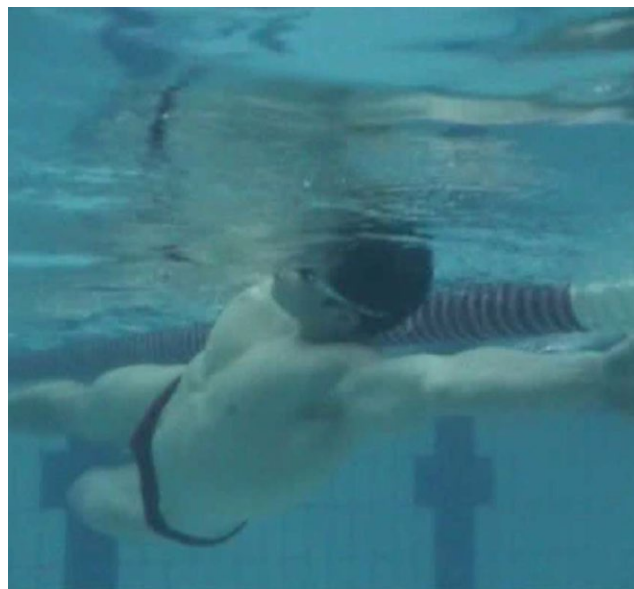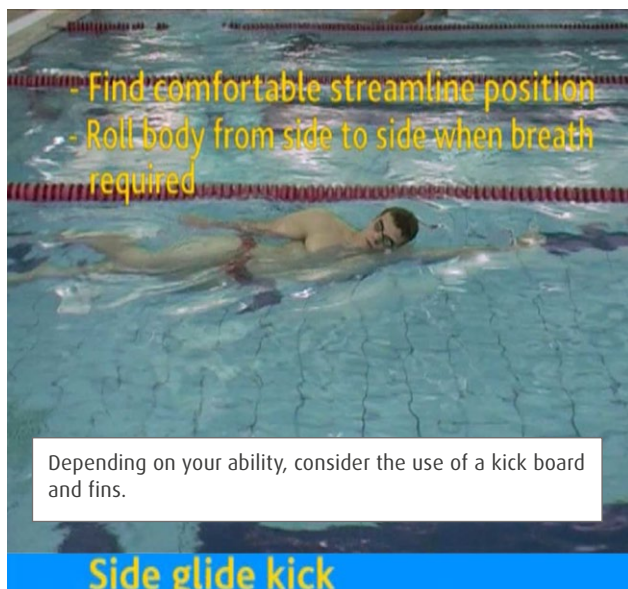This is the recommended technique for 25m underwater section of the RNLI Fitness Test.

Description

1. Full extension glide.
2. Start to angle palms outward.
3. Commence out sweep.
4. Complete out sweep.
5. Start angling palms facing back.
6. Commence in sweep...
7. Hands nearly touch on completion...
8. ...and at the start of the up sweep.
9. Complete up sweep.
10. Second glide, streamline position.
11. Commence arm recovery.
12. Slide hands and commence kick.
13. Complete kick and hand recovery.
14. Streamline to full extension glide.
15. Start to angle palms outward.
16. Repeat process.

SwimTech

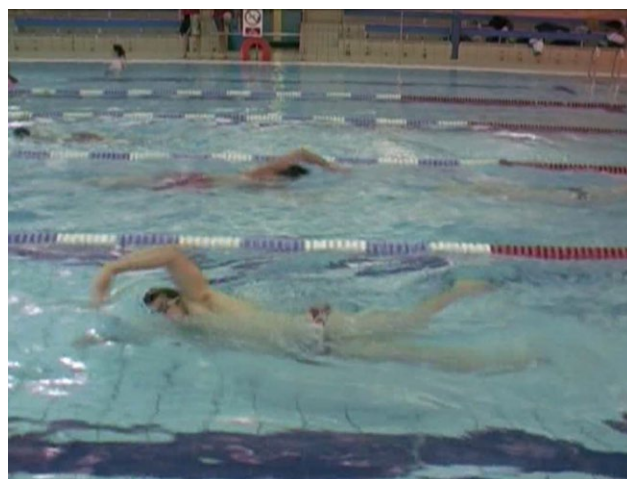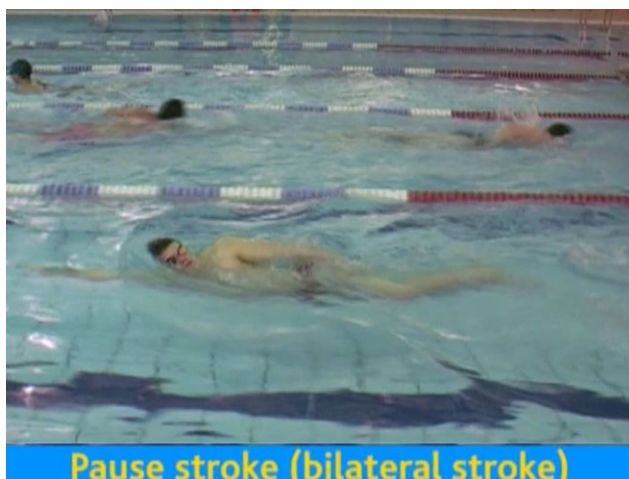## Surf & Beach Lifeguards – Swim Drills with Imagery

- Find comfortable streamline position
- Roll body from side to side when breath required

Depending on your ability, consider the use of a kick board and fins.

Side glide kick

6 kick change

Depending on your ability, consider the use of a kick board and fins.

Note: This drill is particularly effective incorporating Fingertips (or finger drag) which helps to encourage a high elbow in recovery and the underwater pull or sweep phase.
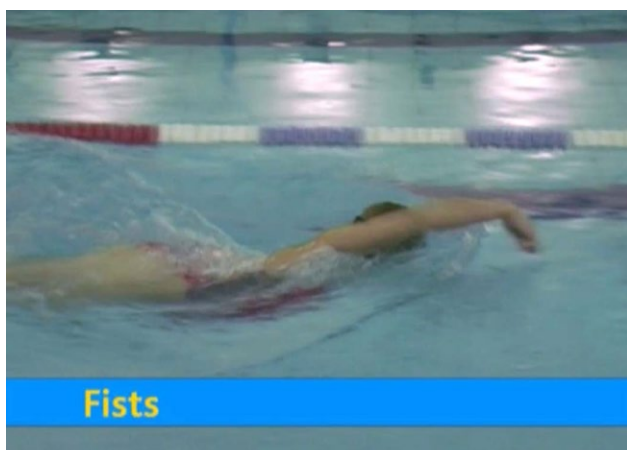
Pause stroke (bilateral stroke)

- 6 kicks (approximately)
- 3 strokes (bi-lateral)
- *Pause for 5 or 6 kicks*
- Change sides
- Repeat

Depending on your ability, consider the use of a kick board and fins.

Finger drag

Finger drag (or **Fingertips**) is a great drill to help encourage a high elbow in both recovery and during the underwater pull or sweep phase. This can be further enhanced by dragging the thumb along the torso to maximise the high elbow. I call this drill **'Chicken Wing'!**

Depending on your ability, consider the use of a kick board and fins.

- Swim as usual but keep fists closed
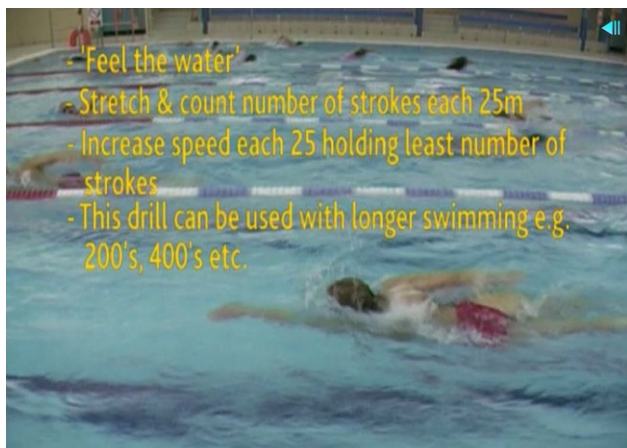- Alternate 25 fists / 25 stoke count

Fists

Fists

Fists can be used as a drill in conjunction with stroke count, such as alternating 25metres fists/25metres stroke count e.g. 8x25metres (4 fists/4stroke count). Try to increase speed on each of the stroke count lengths maintaining minimum number of strokes i.e.

- 25m fists/25m stroke count (easy) Rest 5 seconds
- 25m fists/25m stroke count (medium) Rest 10 seconds
- 25m fists/25m stroke count (medium/hard) Rest 15 seconds
- 25m fists/25m stroke count (hard) Rest 30 seconds Repeat set if desired

Stroke count

- 'Feel the water'
- Stretch & count number of strokes each 25m
- Increase speed each 25 holding least number of strokes
- This drill can be used with longer swimming e.g. 200's, 400's etc.

Stroke Count

Stroke count can be used as a drill in conjunction with fists, such as alternating 25metres fists/25metres stroke count e.g. 8x25metres (4 fists/4stroke count). Try to increase speed on each of the stroke count lengths maintaining minimum number of strokes i.e.

- 25m fists/25m stroke count (easy)
- 25m fists/25m stroke count (medium)
- 25m fists/25m stroke count (medium/hard)
- 25m fists/25m stroke count (hard)
- Repeat set if desired

N.B. This can also be used for 200m, 400m, 800m warm-up/warm-down type swims.

Head-up

- Keep head up, steady & looking foreword
- Best done in sets of 25's e.g. 4 x 25 or 8 x 25
- Assists in strengthening neck muscle
- Valuable skill in locating patient & direction

Directional swimming

- Constantly locating patient and / or direction to patient

About the author

Greg has been involved in competitive swimming and surf life saving since a Nipper in Australia and first lifeguarded in Cornwall at Perranporth in 1979. He has now worked in various operational lifeguard roles for over 40 years, including Carrick District Council Beach Safety Officer, RNLI Divisional Lifeguard Manager Cornwall and RNLI Lifeguard Manager for Perranporth, Newquay and Padstow Areas.

Throughout this time, he has had a parallel career in coaching, with particularly extensive swimming coaching experience in Australia and the UK. Was Truro City Swimming Club, Cornwall Head Coach and coached the Great Britain Surf Life Saving Team at ILS World and European Championships.

He has worked with several Australian Olympic Coaches and has coached international and national champions in both surf life saving and swimming in Australia and the UK. Greg volunteers with Crantock SLSC with Coaching, Training, Assessing and mentoring various awards and skills.

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