COACHING- TECHNICAL POINTS for SWIMMING

When considering your swimming technique for any stroke, analysis should follow the format described below, in the following order:

1. leg kick
2. arm cycle
3. timing
4. breathing

The leg kick will control the body position in the water, while the arm cycle will provide the propulsive force.

The timing between the two is vital to the efficiency of the given stroke in order to provide a greater seed through the water with minimum wasted energy. Finally, breathing technique should be analysed to ensure that when you breathe your overall technique is not disrupted in any way that would cause a breakdown in efficiency.

FREESTYLE/FRONTCRAWL

The main propulsive force of the frontcrawl is the arm cycle. The legs add only 25% of total speed through the water, depending on whether you use a 2-,4-,6- or 8-beat kick. The main function of the legs is to help keep the body balanced and efficient to allow the arms to do their work and keep the body moving when the arm cycle is at its weakest point.

The arm cycle is described as follows:-

RECOVERY

Elbow leaves the water first, with a high elbow, hand relaxed directly under the elbow, trailing fingers almost in the water, then reach forwards to the entry position.

ENTRY AND CATCH

Thumb and middle 2 fingers first, hand slightly cupped, reach further forwards and out (laterally) to “catch” the water to prepare for the out sweep- dropping the shoulder (upon reach) only slightly will help in the “catch” and also in the recovery of the other arm.
OUT SWEEP
Press the water to the body with only slight elbow flexion and begin to rotate the hand at the wrist medially.

IN SWEEP
Press the water towards the hips through further flexion of the elbow and wrist as you feel the body being pulled over the hand.

PRESS
With the hand at the hip and palm facing towards the feet, press the water back by extending the arm to approximately 90% of full extension, keeping in line with the body to reduce drag. The arm is ready for recovery, elbow first!

CHECKPOINTS
• high elbows during recovery – low hands
• clean hand entry – no splash
• stretch hand forward
• head in line with body
• return head to centre after each breath
• breathing low
• bilateral breathing for balance
• constant kick mainly underwater
• distance per stroke
• accelerate hand speed through pull
• stream line off all walls, then pull out bottom arm
• fingertips close to water
• roll hips and shoulders
• “S” pull pattern
• Finish past hips

BACKSTROKE
Due to the required shoulder roll during backstroke swimming and a slightly weaker arm cycle, the legs play a more important part in adding a propulsive force to the stroke. The key, however, is to ensure that the feet work just under the water surface and not above it, to ensure that the full kicking movement is propulsive and not against thin air.

The arm cycle is described as follows:

RECOVERY
Thumb first, arm extended, rotate the arm laterally through the shoulder joint, keeping in line with the body, gradually turning the hand laterally at the wrist ready for entry. Allowing the opposite shoulder to drop will lift the recovery shoulder to help balance the stroke and create a more powerful propulsive phase.
ENTRY AND CATCH
Little finger first, drop the shoulder to allow a reach and “catch” the water with the hand slightly cupped. The arm should flex slightly at the elbow to assist in the catch.

DOWN SWEEP
Continue to flex the arm at elbow as you press laterally, then downwards as you pull the hand towards the shoulder and chest, keeping that shoulder in the drop position.

PRESS
With the arm close to the body, press the water towards the feet in line with the body, ensuring full arm extension is achieved.

CHECKPOINTS
- Head still and laid back in line as when in standing position
- Constant kick(6 beat)
- Kick should look like water being thrown off toes
- Little finger entry- clean entry-no splash
- Bent arm on underwater pull phase
- Finish stroke past hips
- Deep catch then right into upsweep
- Roll hips and shoulders, keep head still
- Recovery- thumb up and straight, straight over, thumb first entry
- Lean on pulling arm
- Pull pattern is “down,up, down,up”
- Accelerate hands through the pattern
- Keep pull close to body

BUTTERFLY
This is a stroke where timing of the kick and the arm cycle are paramount. An inadequate butterfly technique can waste a huge amount of energy because of the double arm movement on recovery and propulsion, and also the double leg kick. Practise makes perfect, and the more efficient you can make this stroke the more power you will be able to generate where it is needed.

The arm cycle is as follows:

RECOVERY
Both arms break the water simultaneously, hand and forearms first, the arms swing outwards, elbows slightly flexed as they both continue to swing round and meet forward of the head, thumb and fingers first.

ENTRY AND CATCH
Fingers first, the hands slightly cupped and catch the water simultaneously in preparation for the outsweep (the big kick finishes).
OUT SWEEP
Together, the arms press laterally, and the arm begins to flex at the elbow (the small kick starts).

IN SWEEP
As the arms continue to flex, the hands turn medially and press towards the body (in small kick finishes).

PRESS
As the hands come close to the body, they then press towards the feet, fully extending the arms at the elbow in preparation for the quick “flick” out of the water and to recovery (the big kick starts).

CHECKPOINTS
- 2 kicks for every pull – kick the hands into the water, kick the hands out of the water
- Breathing pattern-2 stroke preferred
- When breathing lift head forward, push chin forward on surface
- Hands enter directly in front of shoulders, index and middle fingers enter first, encouraging early catch and avoiding head and shoulders sinking in water
- Arm entry smooth, no splash
- Keyhole shaped pullout, in, out, DO not overstress this
- Accelerate through end of stroke- whip out hands
- Relaxed almost straight arm recovery
- Head comes out before arms, head goes in before arms!

BREASTSTROKE
The final competitive swimming stroke to analyse is, like butterfly, controlled by the efficient timing of the leg kick and arm cycle in order to give the most effective end result - a faster swim!

The arm cycle is as follows:-
REACH AND GLIDE
Both hands, thumbs together, reach forward, fully extending the arm at the elbow (the leg kick starts to push back to continue the forward movement)- the arms will stay in this position until the kick is completed by the feet touching.

OUT SWEEP
The hands rotate laterally, cupped to catch the water, and press laterally with slight flexion of the arm at the elbow.

IN SWEEP
The arms continue to flex at the elbow as the press on the water is now turned medially towards the chest (the legs flex at the knee and hips to prepare for the kick).
RECOVERY
Once at the chest, the hands meet in the centre, elbows flexed close to the chest to reduce drag, and recover together over the water at the beginning, but then dive in to the reach and glide.

CHECKPOINTS
• “fast hands and fast feet”
• Scull out, scull in (press in, press out)
• Pull with hands, not elbows!
• Hands press out just past shoulders
• Acceleration with the hands on scull out and accelerate on scull in, keep low angled hand pitch on insweep
• Power surge in and up with arms and then kick forward
• Distance per stroke, fully extending body
• Lift heels to hips at end of kick, when heels reach buttocks turn toes out
• On kick, feel water with inside of feet
• Legs accelerate through the kick out and back then kick together
• Begin kick with toes pointing out and finish with toes pointing in
• Maintain same technique and tempo
• On recovery to buttocks, keep feet close together and try to keep thighs in line with rest of body
SKILLS and DRILLS for Swimming

Here are a number of drills that we use, and an explanation as to why we use them. For continuity of development we do advise that you work with them also.

FRONTCRAWL/FREESTYLE
- Catch up
- Catch up with 6 beat kick
- 3/4 catch up (older swimmers only)
- Catch up with a stick
- Single arm, opposite arm by side, breathe to opposite side of arm you are using
- Water Polo (concentrate on head positioning the younger swimmers)
- 8 Kicks left, 8 Kicks right (or variations of)
- Finger trail
- Shark with 6 kicks
- Touch side
- Swim 3 strokes-8k on right-swim 3 strokes- 8k on left

Because all FC drills are more efficient with a strong kick, fins can be used. This also gives the swimmer a higher position in the water.

BACKSTROKE
- Vertical Catch up
- 8 Kicks left, 8 Kicks right (or variations of)
- Single arm, opposite arm by side
- 1 arm vertical the other rotating
- Double arm
- 1/2 up, full repeat
- 3 double arm - 4 full strokes (or variations of)

Because all Back drills are more efficient with a strong kick fins can be used. This also gives the swimmer a higher position in the water.

BREASTSTROKE
- 2 Kicks 1 Pull
- 2 pulls 1 kick
- 3 kicks 1Pull, 2 Kicks 1 Pull, 1 Kick 1pull
- 2 Up 2 Under (or variations of)
- 1 Left, 1 Right, 1 Full
- Prisoner, head up
- Arms only, fly kick with or without fins
- Arms only, 6 fc Kicks with or without fins
- Breast on back, high elbows (for timing)
**BUTTERFLY**
6 Kicks to 1 Pull
1 right 1 left- 2 right 2 left- 3 right 3 left (or variations of)
(Can breathe to front or side, front breathing tends to restrict the undulation of the stroke in young swimmers)
3 Left 3 Right, breathe to the Front
Fly on Back
Biondi, 6 kicks
Set distance swim on fc with 3 strokes fly in/out off walls
Fins can be used for maximum efficiency

**SCULLS**
Torpedo, front and back
Doggy paddle
Head 1st on back
Feet 1st on back
Straight arms on front
Elbows high on front
Seated, back straight, knees in front of chest, either forward or backwards
Side scull, work the catch, and the push through

**STREAMLINE FLY KICK ON FRONT & BK**
Time the swimmer to 10m, 12 ½ m or 15m insisting on perfect streamlining every time. MAXIMUM KICK SPEED, aim for 2 kicks per second.