

Kyle's Swim

0411

Four phases of a perfect swim stroke:

- 1. Catch Phase**
- 2. Pull Phase**
- 3. Power Phase**
- 4. Recovery Phase**

Good aspects of your stroke: You are certainly executing the last two elements of 7EAM (Smoothness & Relaxation). This is evidenced by the minimal splash from your hands when you are in the catch phase.

Kyle, below are trends I noticed through the video that need some attention on your part in order to correct.

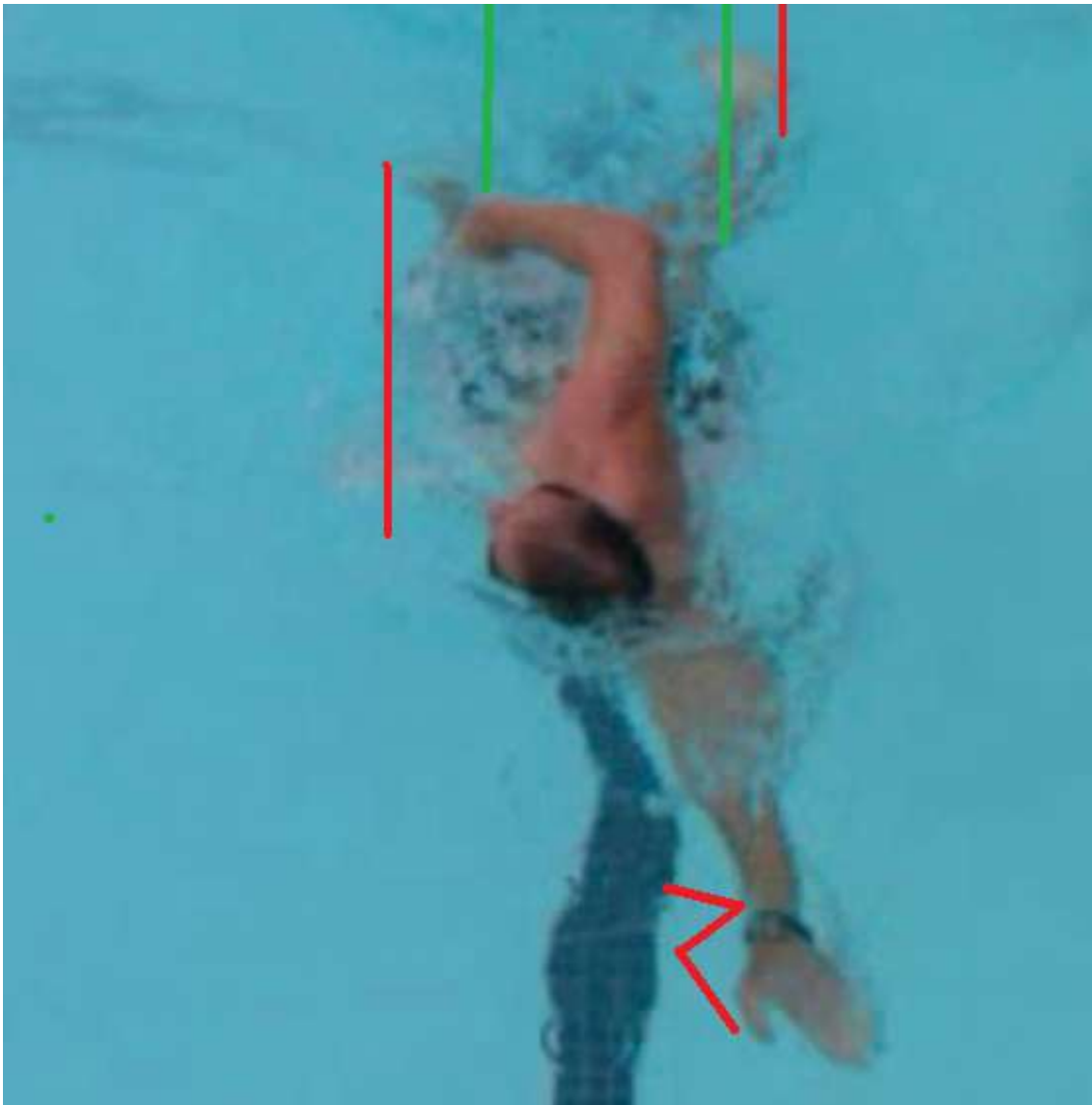
Your right (strong) hand tends to cross the midline.

The red line shows where your hand is ending. The green line is where your hand should be. This happens only with your right hand. Every time you cross the midline you lose power and do not get the most return for effort. Remember, you have the most power when your hand lands just outside of your shoulder as you would if you were doing a push up. Drills to correct this: Quiet (with head up and with head below), the "V", and the 1-arm drill.



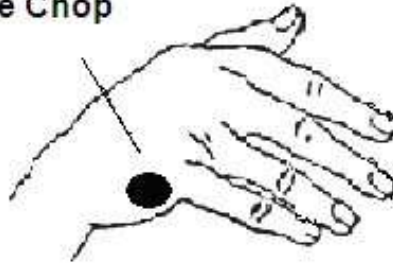
You will notice on the video that your Left hand tends to make a quick “Z” action like the old movie character Zorro. During the catch phase of your stroke, if your hand pulls in any other direction (other than 12 to 6 o’clock), you are wasting 4-6 inches of water. This limits the amount of water you can pull down through to the lower part of your thigh. This is shown by the red “Z” around your left hand. Drills to correct this are 1-arm & Quiet. On your leg action, your feet should

always be drafting behind your hips. The green line shows the optimal location. The red is where they typically end up. When your leg action goes outside of the green lines, it's as though you are putting on the brakes (as far as forward movement is concerned). A drill to help this out is 25-meter repeats with a board using your legs only,

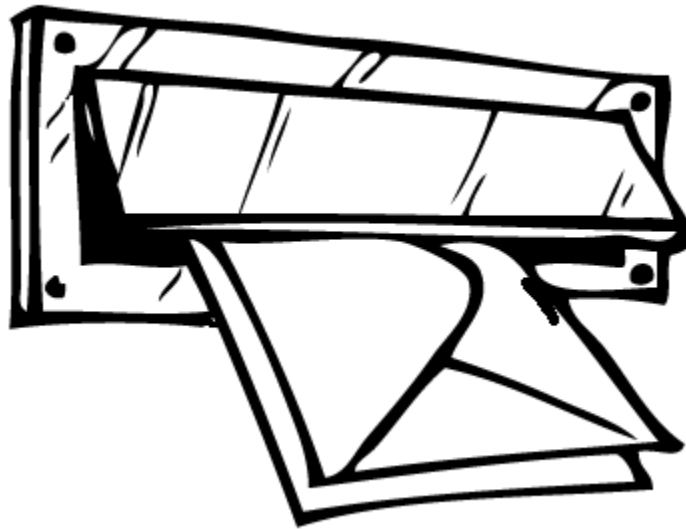


Karate Chop Syndrome

Karate Chop



Several times your right hand is entering the water pinky finger first as though you are doing a karate chop. This slows you down because it will take you about 4-6 inches until you feel like your catching water to force down to your thigh.



During your catch phase, try to imagine your hand entering a mail slot (your hand flat to the ground).



Drills to help with this are Quiet, Shark, or as the below picture shows, stand in chest deep water and watch your hands catch & pull perfectly.



Lisa
0404 Swim Critique

Good aspect about your swim video:

Lisa, your stroke is smooth and relaxed. The splash on your hand entry is minimal and which means you are setting yourself up for getting the most out of the catch phase of your stroke. Your leg action is efficient because you keep your feet drafting behind your hips and your heels periodically break the surface of the water.

What we need to correct immediately:

Body position- your head as you move through the water.

Arm Action – keep fingers extended and joined at all 4 phases of your stroke, crossing the midline, and pulling your hand out of the water too soon (missing the power phase).

Breathing – breathe in such a way as to not put stress on your neck and keep your legs in perfect alignment with your hips.

The graphic in the critique are highlighted with **red** & **green**.

Red is something we want to avoid repeating.

Green is something we want to repeat over and over.

The below is for your long-term vocabulary and will be a part of all your critiques.

Fitness – sourced from the muscles and cardio vascular system and can only be tested on an in-frequent basis. Must have recovery built in between hard efforts.

Technique – sourced from the nervous system and transferred to the skeletal system. Technique can be tested frequently and should be built into every workout.

Execution – a blend of fitness and technique. This is what we want to happen on key training days and all races. The longer the race, the less there is an emphasis on fitness and more of an emphasis on technique.

Potential Energy (PE) – moving efficiently and getting the most return for investment of effort. Tapping into the body's natural ability to move forward; the way it was designed to do. This is the goal of 7EAM.

<http://www.tri-soul.com/images/Education/TS%207EAM%20Swimming.pdf>

Bio-mechanical Energy (BME) – in any effort over 20 seconds, it is the force that must be applied to re-ignite muscle contractions so a certain level of output can be maintained or achieved. BME yields more endorphins and gives a sensation that this is the only place where gains in performance can occur. Thus BME becomes more desirable to the average endurance athlete. The danger is that if not tempered/regulated the end result can be injury, burnout, overtraining, and ultimately the reason for poor performance. Evidence of an over dependence on BME is slowing down as the race goes on. This is an endurance athlete's version of the law of diminishing returns. The harder one tries, the slower they get. This is not desirable.

7EAM as it relates to Lisa's swimming

Body Position and Arm Action

According to Newton's 3rd law of motion, the position of the head directly relates to the position of your feet. We never want to head to hang low (under the water) because that would cause frontal drag. Photo "A" shows us where we are at this point in time. A head held high, a lot of swim cap exposed, (as shown by the red ring) means the feet will hang low and cause drag (to slow you down). A head held neutral, lower in the water, (as shown by the green ring) will keep your feet higher in the water, cause less drag, and enable you to maintain the speed that is generated from your arms & hips. Additionally, as you will see on the video, your fingers tend to be spread apart at the most critical time in your stroke (catch phase).



Photo A. Head Position

Photo “B” shows two things you want to think about during your stroke, crossing the midline & keeping a stream-like presence as you move through the on-coming rush of water. Please remember, as in doing a push up, your hand should catch the water just on the outside of your shoulders. This sets you up for the most power and enables you to roll your shoulders so you look more like a hull of a speed boat rather than a barge. A barge means having your shoulders square & low to the front. On the below photo “B” (speed boat), please notice how the left shoulder is pointing to the sky which enables the athlete to execute a stream-like appearance to the on-coming water. Think of on-coming water like air flow while you are riding a bike. A drill to help with is the “1-arm.”



Photo B. Speed Boat

In Photo “C,” the **red line** shows where your hand tends to end up after the catch phase. The **green line** is the desired (push up) area

where you will get the most power and enable that opposite shoulder to be high in the sky, complete the rotation, and return the effort in speed that you create with your arms and hips. Photo Cb is an exact location of where you want your hands to catch in the water. The drill to help with is the “Quite.”



Photo Ca. Arm Crossing the midline & shoulders square to the front



Photo Cb. Hand placement in the water as though you were doing a push up

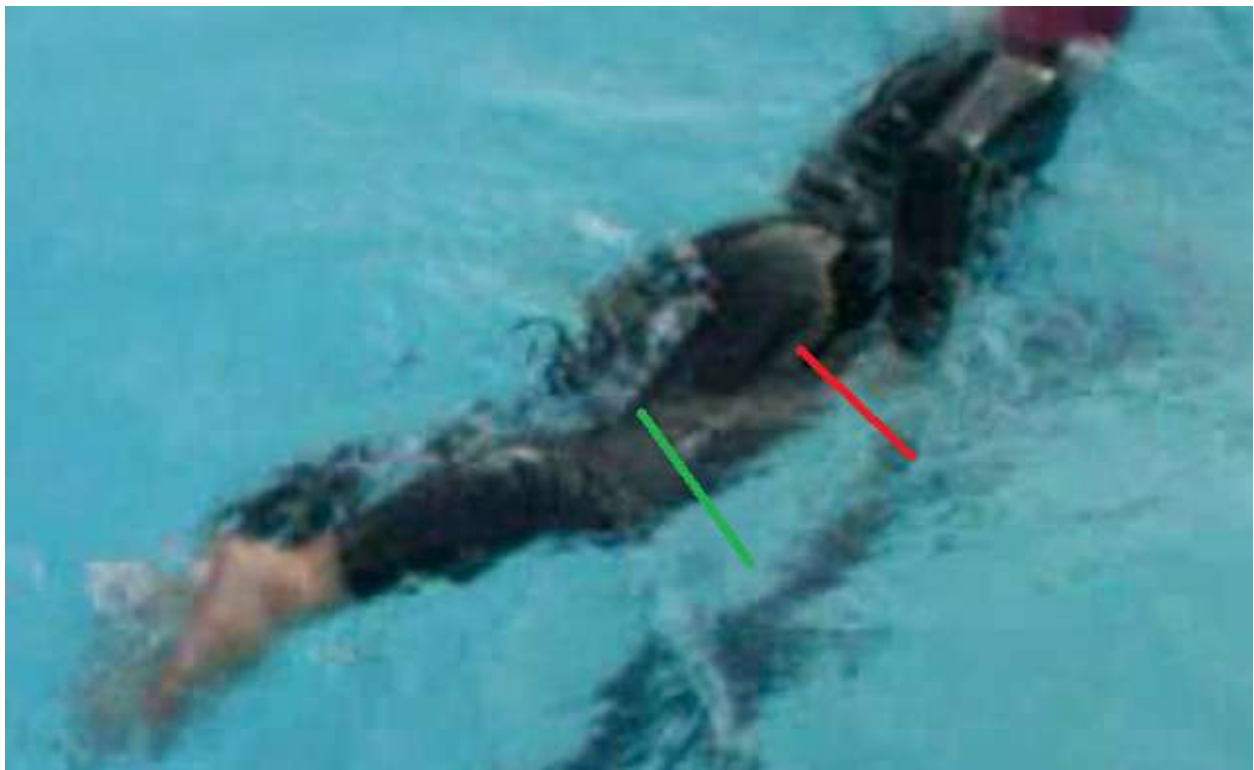


Photo D. Power Phase

During the power phase of your stroke, sometimes your hand comes out too early. By doing this, you are cutting your power phase in half or eliminating it altogether. A drill to help with this is “Shark.”

You will see this a lot in the video, photo “E,” shows your hand in a zig zag & S-stroke action. When your hand and does any other action besides a strong 12-6’oclock movement, you are wasting up to 6-8 inches of stroke distance per stroke. An additional side effect of the S-stroke technique is that it can through your feet to the opposite side and cause lateral drag and slow you down.

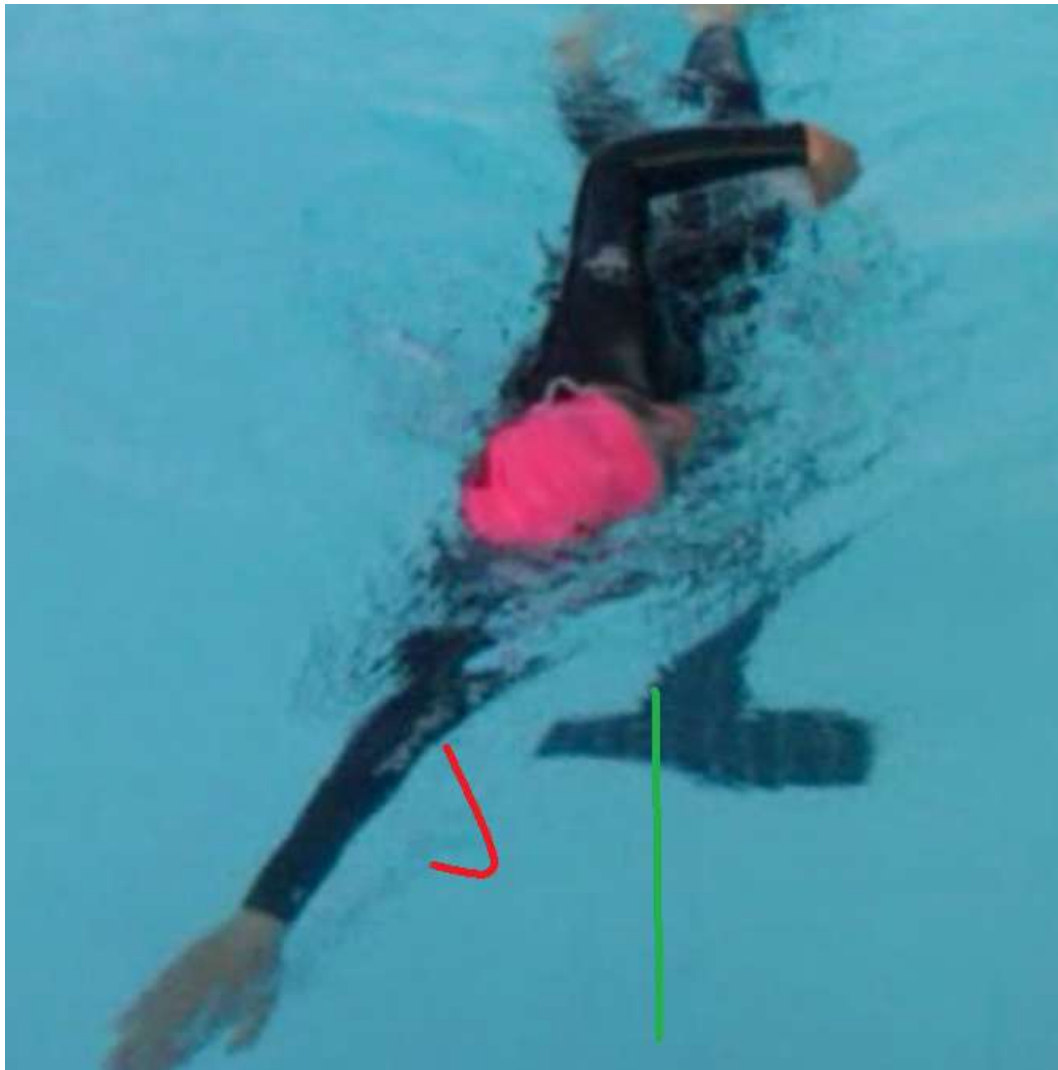


Photo E. S-stroke

Breathing

Breathing is simply pressing down on your ear and taking small, side-to-side breaths. **All you need is half of your mouth, one nostril, and one eye ball (please see photo G).** This keeps your head & neck in the neutral (optimal) position. **When athletic movement is sourced from a neutral position, there will be more return on effort and is less chance for injury.** When the swimmer lifts their head out of the water, they immediately fall victim to Newton's 3rd law of movement; making the feet sink deep in the water like an anchor. In photo E, please notice how high your head is out of the water. This is not desirable. Additionally, when you do breathe, your mouth and nose should only go in a east/west movement. Having your chin to the rear (close to your shoulder) puts your neck under great strain and possibly can through your legs out wide. Photo G is what I want myself and all my athletes to look like and execute over & over.



Photo F. Breathing to the rear

George
0321 Swim Critique

General comments about the video: Great start! We need more swimming and less (no) talking. Please have the future videos go for 2 min. Good job on commandeering a camera man. Next time you have a camera man, swim close to the wall and have her walk with you in the direction you are swimming. I want to see where your hand is coming out of the water in relation to your body. I also need more shots of you swimming directly towards the camera.

The below is for your long-term vocabulary and will be a part of all your critiques.

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7EAM as it relates to George's swimming



Body Position and Arm Action

For optimal body position in swimming, you generally you need to keep the chest down and the feet up. The heels should be constantly breaking the surface of the water as you flutter them lightly. The quickest way to fix this is to increase your core strength and review everything I have on YouTube regarding swimming. Your arm action resembles that of my YouTube from the old MCAS pool where I show the gentleman swimming in the same lane as I. Your arms are almost the same except a little lower in the water. Low elbows are not desirable in endurance swimming. Please review:

<http://www.youtube.com/MyTriSoul#p/u/9/Wls4AzH4Uw>

In the YouTube video, please notice how my elbows are high, point to the sky, and there is barely any white water (splash) from my hand entry to arm recovery. Please notice on the photo above all the turbulent water around your back and arm. You want your 4 phases of the stroke to be as quiet as possible. Hey, if I was with you in person, could you tell me all 4 phases of each stroke?



Example of low elbow



Leg Action & Breathing

Please notice how wide your legs are spread. This comes from “kicking” rather than TEAM “Leg Action.” Leg Action, at Triathlon Solutions, starts from the core & hips and transfers the power to the legs because the legs are to be relatively straight. We don’t use words like “kicking.” Bending the knees disconnects the leg action from the core and causes the legs to lose muscle power. This is evident in the bending of the knees. The direct result is that they sink in the water, create drag, and slow you down. Breathing is simply pressing down on your ear and taking small breaths. **All you need is half of your mouth, one nostril, and one eye ball.** When the swimmer lifts their head out of the water, they immediately fall victim to Newton’s 3rd law of movement; making your feet sink deep in the water like an anchor. If I asked you Newton’s 3rd law of movement, would you be able to explain it? In the below photo, please notice how the lifting your head makes your feet disappear deep in to the water. This is not desirable. Furthermore, the spreading of the feet is like a dragster deploying a para chute for breaking.



Hey George, this is a fantastic start. For the most part, what is good about you swimming is that your **Coordination** is sound and your strokes are **Smooth** and **Relaxed**. These are normally more difficult to correct than the above comments regarding your first video. For the next two weeks, all I want you to focus on is your breathing technique. I want your April videos to look like the girl below. Please review my YouTube:

<http://www.youtube.com/MyTriSoul#p/u/2/DzuwiHOZazE>