

Triathlon Solutions

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Seven Elements of Athletic Movement (7 EAM) as it relates to swimming

Body Position – Head (water line), Keep a sand-dollar size spot of back of head dry, Neck stays in the neutral position, Eyes should be looking down approximately 5 feet ahead of your current position, Chest pressed down to keep feet up. The ultimate body position is streamlined and missile-like to achieve slippery movement through the water. All the below remaining elements are to support the ultimate body position.

Arm Action – 4 phases of the efficient stroke

- 1. Catch Phase** = The catch phase (hand entry) is to promote an optimal 12 to 6 o'clock movement of the hand in order generate the most powerful propulsion with the least cost of energy. The target placement for the hand entry point is as though you are doing a push up. This is just outside the 11 & 1 o'clock zones in relation the head (12 o'clock). Never cross the body's midline (center of the body). When the hands cross the midline, the counter reaction of the body is to whip our hips and feet to the opposite side of the Arm Action. This creates an undesirable fish-like movement in the water that causes drag and slows you down. The hand needs to quietly entry (same location as a push up) as though you are putting your hand through a mail slot. The splash (if any) should produce a light wake on each side of the hand. If you have a dominant splash to either the 3 or 9 o'clock direction, they you are not entering your hand in properly. Pointing or pinky finger first means you will get an inefficient catch and waist movement.

Water Drills that build up a proper Catch Phase are: Quiet Hand Entry & 4 Fingers' Tip Drag

- 2. Pull Phase** = The pull phase occurs after our hand enters the water and ends about the about the chest region. The swimmer needs to think "fingers, wrist, forearm, shoulder." hand should be below and on the inside of the elbow. The movement of the arm is as though you are wrapping your hand around a barrel. In an attempt to get a quick turn over of strokes (I don't know why), most swimmers end their stroke at this point and go straight into the entry phase. This harms their ultimate body position and cheats them out of potential power. **Dry-Land Drills that build up a proper Pull Phase: are bands & pulleys with weights that permit the swimmer to mimic the hand position and movement in the water.**

- 3. Power Phase** = This is the critical part of the stroke that propels the swimmer forward. From the chest region, with the fingers extended and joined, the hand presses firmly, close to the body, and finishes across lower portion of thigh. It is helpful to use a body reference point to ensure you complete the stroke. You can do this by always nicking the thumb across the lower portion of the thigh. **Dry-Land Drills that build up a proper Pull Phase: are bands & pulleys with weights that permit the swimmer to mimic the hand position and movement in the water. Water Drill: DPS**

- 4. Recovery Phase** = This phase sets up the hand to enter the same spot, and to continually repeat, as you started in the Catch Phase. The elbows should come out of water **EQUALLY** and high enough to resemble a shark's dorsal fin. This occurs when the hand is near the armpit. The added benefit of a proper Recovery Phase is that the arm get a moment of rest (no muscle contraction) before you start the 4 phase process all over again.

Water Drills that build up a proper Recovery Phase are: Shark, & 4 Fingers' Tip Drag

Leg Action – Leg Action is to help achieve that ultimate body position by keeping the feet high in the water. At Triathlon Solutions, we don't like to use the word "Kick." A proper Leg Action starts from the hips, the knees never bend (should not look like a scuba diver's "kick"). The swimmer needs to think about their feet being placed in a small 1'x1' box with pointy edges (going outside the box would mystically cause pain). The action is a simple flutter with the goal of maintaining the heels constantly breaking the surface of the water. **Dry-Land Drills that build up a proper Leg Action: are to roll on top of a stability ball as though you are in a push up position. Center the ball as far forward (upper body) as you can and make small flutter actions for 20 seconds and repeat. While you do this, feel the sensation of your core working in harmony with your leg action. It's important to mimic the Leg Action movement that would occur in the water.**

Breathing – Swimmers do not need a lot of O2 in performance swimming. One nostril, half of your mouth and a quick inhale is enough. As shown in the below photo, simply press down on your ear and breathe every stroke (choose a side, Left or Right). Lifting the head out of the water for breathing will cause your feet to drag and slow you down. Breathing every stroke keeps the swimmer in an aerobic state. It is critical to learn how to bi-lateral breathe for training. Most of your swim training should be done using bilateral breathing. This promotes balanced neck muscles. Use lateral breathing (breathe on one side) for race-simulating time trials and actual races. Swimmers those are competent breathing both left and right will show up to a race more confident because they will be able to negotiate any swim course without disturbing the ultimate body position.



Coordination – The body needs to slip through the water with determined body roll. This allows movement to resemble a speed boat (narrow hull); rather than a barge (flat on the water). Body members work together as a team in such a way as to not disturb the missile-like positioning as described above in Body Position.

Water Drills that build up a proper Coordination: 1-Arm, Quiet, tennis ball swims, Shark, V-stroke

Smoothness – harsh strokes disturb body position & make the muscles sink. Get yourself filmed and see where your hand splashes and begins the Recovery Phase.

Relaxation – Muscles that are contracted flush out cells that carry O₂. Lack of O₂ makes the body sink. Relaxed muscles float and the swimmer will slip through the water better. Adopt a swimming manta, ex. “long & strong” or BRASS – Breath, Relax, Smooth, Stroke