Fish Don't Swim On Their Side And Neither Should You

Recent articles, books, videos and clinics have flooded the masters swimming and triathlon communities promising to teach the secret to successful, fast swimming. These articles sound impressive, as they encourage us as swimmers to stop trying so hard and start feeling, sounds like the theme of a John Gray workshop. But as coaches we are informed that we have been teaching, and training swimmers effectively. We are told to swim fast, but we must learn to swim on our side like a fish, and have and maintain a body position like a racing yacht.

Although some of these concepts have some merit and help beginner swimmers learn to relax in the water, they are not based on biomechanics, principles of propulsion, or the analyses of world class swimmers. Since we are not built like a fish and do not move through the water like a solid object, such as a racing hull, it is foolish to base stroke instruction and an entire training philosophy around these principles.

It has been stated, by the guru of "fish like swimming," the most hydrodynamically perfect position that your body can be in balanced, lying on your side, one arm extended for length. Not so very different from the way a fish does it (1). This statement drives me nuts! FISH DO NOT SWIM ON THEIR SIDE. If we take a look at a fish we notice a large fin sticking up toward the surface of the water. This fin is called the dorsal fin, dorsal means back or upper surface. The dorsal fin is on the fish's back, which means his back is up, and his front is down to the bottom of the water. The fish, it seems swims on his stomach not on his side. If you happen to see a fish swimming on his side you know that fish is dead in the water, the same way you'd see a swimming human on his side. The swimmer who "speeds up and slows down" is wasting valuable energy repeatedly overcoming inertia. (This is Newton's third law. Just in case you were wondering.) Sometimes the reaction is positive, where the athlete is suspended in fluid, and every action will create an opposite and equal reaction. Montgomery is a good example of this of stroke style, as is Ian Thorpe.

The best approach to improving swimming is to learn from what the very best are doing. Here are a few of problems with the concept of fish like and boat like swimming.

1. When swimming freestyle most of the swimmer is underwater. Holding the body on the side will not increase the distance the swimmer is able to move through the water. If both occur the swimmer will see the greatest speed increase of all. To eliminate one at the expense of the other is a waste of time and effort and will not result in successful swimming.

2. It is virtually impossible to generate propulsive forces from a long side stretched position. The muscles of the upper body cannot achieve efficient position to execute an effective freestyle pull, if the body is rotated to 90 degrees or to perpendicular with the bottom of the pool.

3. If a swimmer maintains a long stretched position "resting" as has been suggested (2) he will experience slowing down and speeding up. If propulsion is improved and no change occurs with streamlining the swimmer will get faster. If both occur the swimmer will see the greatest increase of speed. To eliminate one at the expense of the other is a waste of time and effort and will not result in successful swimming.

Since humans are neither fish nor boat, it does make sense to try and copy either in an effort to speed improvement in the pool. There is no way to say that a streamlined position is undesirable, it is. Dr. Brent Rushall editor of The Swimming Science Journal states it best "streamlining is very important required to overcome inertia than to maintain inertia. Therefore the swimmer who "speeds up and slows down" is wasting valuable energy and will not result in successful swimming.

4. Streamlining is not more important than propulsion. Keep in mind, if streamlining is improved and no change happens with propulsion the swimmer will get faster. If propulsion is improved and no change occurs with streamlining the swimmer will get faster. If both occur the swimmer will see the greatest increase of speed. To eliminate one at the expense of the other is a waste of time and effort and will not result in successful swimming.

5. Fish like swimming lacks a bit in the common sense department. Have you see an article in Runners World, "Run Like A Cheetah… on all Fours. " Can you imagine the break through this type of discovery would mean to the running world? We can learn a great deal from the observation of animals in their natural environment, but we should never forget we are not those animals.

As far as the hydrodynamic position described, it is based on the hydrodynamics of fish and racing shell hull design not on the human body. A swimmer is not a fixed object in the water and our bodies are not like the hull of a yacht.

Here are just a few of problems with the concept of fish like and boat like swimming.

1. It has been stated by the guru of "fish like swimming," the most hydrodynamically perfect position that your body can be in balanced, lying on your side, one arm extended for length. Not so very different from the way a fish does it (1).

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3. Several years ago I wrote an article on “Fish Like Swimming” it was posted on the old DAMSWIM.com web page and then published in Swimming Coach Magazine. The article was very well received and I should think I'd reprint the article in full for this weeks DAM Monday. If you remember it from the past reread it you might learn something new. If you've never seen it before I hope it helps you with your understanding of the sport of swimming and more importantly your swimming.

For the next DAM Monday (I) address a few of the current "stroke technique" myths being taught at some swimming pools around the country.

Until then see you at the pool.

Bobby

Footnotes:
1. Laughlin, Terry, Delves, John. (1996) Total Immersion the revolutionary way to swim better, faster, and easier, p 129.
3. Ibid.
4. Ibid.
5. Ibid.