

STROKE VARIATION

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There are many variations in swimming technique not just between swimmers but your individual stroke will vary from sprints to distance and from pool to open water. At FINA Masters World Championships 2008, it was amazing how many different techniques were successful particularly in the Breaststroke races. Let us discuss freestyle.

There are some wonderful videos on YouTube of the very best swimmers. Google Video has them indexed. Such swimmers as Michael Phelps, Eamon Sullivan, Grant Hackett, and Libby Trickett etc. are featured with underwater footage of major races. Analysing their strokes is beneficial to our swimming. There is significant variation of stroke for different distances.

In the 50 metre freestyle sprint, the swimmers sacrifice stroke efficiency to expend their power over the short distance. The sprinters come up from their dive very quickly, swim very flat with little hip rotation and have a very fast stroke tempo. In setting one of his world records, Eamon Sullivan took 44 strokes for the distance. The sprinters appear to time their hands so that one hand is entering the water as the opposite is exiting. The "catch" is almost at hand entry. The body balance is precise. I am told that Libby Trickett practices freestyle balanced on two kick boards under her chest. The kick is shallower than Phelps in the 200m but has incredible speed and power. All sprinters use a six beat kick. While most top swimmers would use that technique up to 400metres many Masters swimmers would use a 2 beat kick for much of the 400 metres.

The catch-up, front quadrant stroke is very efficient but slower. It is moderately applied to the 100metres then emphasized in longer distances

Eamon Sullivan swims the 100 metres in a different manner. His first 50metres is about 2 seconds slower, but he takes only 33 strokes. There is more catch-up, more hip rotation. The catch is slightly delayed after entry.

Michael Phelps stands out from other swimmers because of his phenomenal underwater skills. He took 23 strokes for the first 50metres (with dive) and 26 strokes for the second 50 metres in the 200m freestyle Olympic championship at Beijing. His stroke features even greater hip rotation, asymmetrical catch up with a long glide on the left hand while breathing on the right side. His body is almost "totally immersed" by contrast to the 50 metre sprinters. His stroke has an incredible efficiency but requires the application of great strength for each stroke. I doubt if such a stroke could be sustained over 1500m. (History often proves these statements as wrong)

Grant Hackett swimming the 1500m has a long stroke rating at 33 strokes a lap. The pull is shallower, closer to the body and very much to the side. The stroke has more catch up, hip rotation and front hand glide than the shorter distance swimmers. The kick varies between 2 beat, 4 beat and 6 beat and none have the emphasis or power that Phelps delivers in the 200metres. The 1500m is an efficiency swim. Because the muscles for the kick are a long way from the heart, the Oxygen delivery takes longer than to the core and shoulders. A distance swimmer must balance speed against energy in a distance race. A substantial part of the race might be swum with a 2 beat kick. Keeping the hands nearer the body in the pull is a more efficient use of energy but it may not deliver sufficient power in shorter races. When pushing off after turns the distance swimmers conserve energy and do not use a series of underwater kicks.

The purpose of this article is to suggest that you not only learn to swim a stroke but there are variations in technique depending on the distance.

As open water season approaches you must consider your technique, as it is a different environment to the flat water of a swimming pool. I suggest a two beat kick and significant hip rotation. This will allow efficiency and a high arm recovery so the hands do not hit the waves. Always maintain some "core strength" reserve and time your stroke with the wave frequency. Be sensitive to a wave coming from behind and apply more energy to extract what you can.

I hope that swimmers realize there are variations of technique for different distances, rather than selecting one of the champions mentioned and copying the one stroke for all distances and circumstances.