JSM

JOURNAL of SPORTS SCIENCE & MEDICINE

Journal homepage ISSN: 1303 - 2968

©Journal of Sports Science and Medicine (2012) 11 , 682 - 689

Research article

Comparison of Temporal Parameters of Swimming Rescue Elements When Performed Using Dolphin and Flutter Kick with Fins - Didactical Approach

Marek Rejman[1], Wojciech Wiesner[2], Piotr Silakiewicz[3], Andrzej Klarowicz[1], J. Arturo Abraldes[4]

ABSTRACT

The aim of this study was an analysis of the time required to swim to a victim and tow them back to shore, while perfoming the flutter-kick and the dolphin-kick using fins. It has been hypothesized that using fins while using the dolphin-kick when swimming leads to reduced rescue time. Sixteen lifeguards took part in the study. The main tasks performed by them, were to approach and tow (double armpit) a dummy a distance of 50m while applying either the flutter-kick, or the dolphin-kick with fins. The analysis of the temporal parameters of both techniques of kicking demonstrates that, during the approach to the victim, neither the dolphin (t_{mean} = 32.9s) or the flutter kick (t_{mean} = 33.0s) were significantly faster than the other. However, when used for towing a victim the flutter kick (t_{mean} = 47.1s) was significantly faster when compared to the dolphin-kick (t_{mean} = 52.8s). An assessment of the level of technical skills in competitive swimming, and in approaching and towing the victim, were also conducted. Towing time was significantly correlated with the parameter that linked the temporal and technical dimensions of towing and swimming (difference between flutter kick towing time and dolphin-kick towing time, 100m medley time and the four swimming strokes evaluation). No similar interdependency has been discovered in flutter kick towing time. These findings suggest that the dolphin-kick is a more difficult skill to perform

when towing the victim than the flutter-kick. Since the hypothesis stated was not confirmed, postulates were formulated on how to improve dolphin-kick technique with fins, in order to reduce swimming rescue time.

Key words: Swimming, lifesaving, dolphin kick, fins, rescue tow

Key Points

- The source of reduction of swimming rescue time was researched.
- Time required to approach and to tow the victim while doing the flutter kick and the dolphin-kick with fins was analyzed.
- The propulsion generated by dolphin-kick did not make the approach and tow faster than the flutter kick.
- More difficult skill to realize of dolphin-kick than the flutter-kick was postulated.
- The criteria for how improve dolphin kick technique with fins were formulated.