ACUTE STRETCHE EFFECTS AT THE PERFORMANCE OF 25 METERS SWIMMING CRAWL IN LIFEGUARDS

Paulo Nunes Costa Filho[1][2], Marcos Tadeu de Almeida[2], Carlos Araújo Marques[2], Marcelo Pinheiro de Oliveira[2], Fábio Braga Martins[2], João Paulo Menezes dos Santos[2], David Szpilman[2], Alexandre Palma[1].

[1] School of Physical Education and Sports, Federal University of Rio de Janeiro (EEFD / UFRJ).
[2] Department Maritime - Firefighters of the State of Rio de Janeiro (GMar/CBMERJ).

ABSTRACT

Introduction: Among the studies focused on the sports of swimming, some of them intended for training to increase the individual performance to improve and optimize the physical capabilities at this sport. In this context, stretching is a common practice in flexibility training, but there is a lack of specific information about the methods of stretching mainly geared to non-athletes. The literature states that flexibility is one of the fundamental physical abilities to perform well in individual swims.
Objective: To investigate the influence of three methods of acute stretching promotes improvement in performance of Lifeguards (LG) of the Fire Department of the State of Rio de Janeiro (CBMERJ) in a speed test of 25 meters test crawl.
Methods: A sample of 34 non-atlhetes LG without experience in flexibility exercises, aged 25 ± 4.52 years, body weight of 71.31± 12.54 Kg, height 173 ± 8cm, Body Mass Index (BMI) of 23.73 ± 2.63Kg/m2 and Body Fat percentage (BF%) of 11.23 ± 5.06%. Lifeguards from the Fire Department of Rio de Janeiro were randomly selected and divided into four groups: A (n=8), B (n =8), C (n=9) and D (n=9); being evaluated with the test of 25 meters crawl, following the experiment with the model of Latin square in four different situations: warming 5 minutes followed by 2 minutes rest and 25 meters test crawl (T1); warming 5 minutes followed by 30 second rest, the static method with 3 repetition 30 second of the stretching (with 30 seconds rest between repetition on each members), followed by 2 minutes 25 meters and test crawl (T2); warming 5 minutes followed by 30 second rest, the ballistic method with 3 cycles of 15 repetition with 30 seconds of stretching on each members, followed by 2 minutes rest and 25 meters test crawl (T3); warming 5 minutes followed by 30 second rest, the method Proprioceptive Neuromuscular Facilitation (PNF) with 3 cycles of 6 repetition contraction with 6 seconds of stretching on each members, with 2 minutes rest and 25 test crawl (T4). The tests were conducted in a semi-Olympic pool (25 x 12.25 meters) and methods of stretching were conducted to reach the muscles used during the development of the above style. To assess the differences between the times of 25 meters crawl, we applied the statistical analysis one-way ANOVA followed by post-hoc Tukey. Data were expressed as mean, with a confidence interval (CI) of 95% and p-value of 5%. The stretches used in the study are listed on figure below:

Exercise 1 | Exercise 2 | Exercise 3 | Exercise 4 | Exercise 5
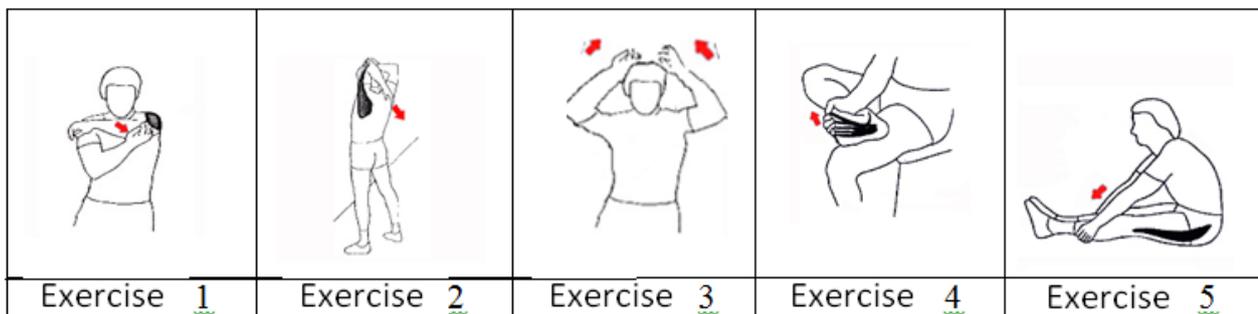
Results: The results are listed on the table 2.

GROUPS	n	T 1 (s)	T 2 (s)	T 3 (s)	T 4 (s)
		CLEAR SWIM			
A	8	15,37 ± 0,97	16,13 ± 0,88	14,95 ± 0,96	16,55 ± 1,30
B	8	14,35 ± 1,15	15,10 ± 1,21	13,98 ± 1,09	15,41 ± 1,15
C	9	14,74 ± 1,64	15,16 ± 1,53	14,32 ± 1,65	16,74 ± 1,99
D	9	15,84 ± 1,39	16,35 ± 1,28	15,27 ± 1,17	17,11 ± 1,55
TOTAL	34	15,09 ± 1,39 *	15,69 ± 1,21 *¥	14,64 ± 1,33¥	16,48 ± 1,48

Mean ± standard deviation. * Significant difference from T1 to T3, T2 and T3.
Significant difference: p ≤ 0.05 (for inter-group analysis).

Conclusion: This study concluded that among the three methods systematized acute stretching, the ballistic method (T3) was the biggest change that gave statistically significant (p ≤ 0.05) when compared with other methods or without intervention in improving the performance of LG, however for the anthropometric measures was not significant difference evidenced between groups (p ≥ 0.05).
Key-words: lifeguards, stretching, swim, *performance*.