

Water Immersion Recovery for Swimmers in Hot Environments

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Abstract : This study recognized the effectiveness of cold-water immersion recovery post exhaustive short-term exercise. The purpose of this study was to understand if 16- 20°C of cold-water immersion would be beneficial in a tropical environment to achieve optimal recovery in sprint swim performance in comparison to 10-15°C of water immersion. Two 100m-sprint swim performance times were measured along with blood lactate (BLa), heart rate (HR) and rate of perceived exertion (RPE) in a 25m swimming pool with full body head out horizontal water immersions of 10-15°C, 16-20°C and 29-32°C (pool temperature) for 10 minutes followed by 5 minutes of seated passive rest outside; in between the two swim performances. Twelve well-trained adult swimmers (5 male and 5 female) within the top twenty in the Sri Lankan national swimming championships in 100m Butterfly and Freestyle in the years 2020 & 2021 volunteered for this study. One-way ANOVA analysis ($p < 0.05$) suggested performance time, Bla and HR had no significant differences between the 3 conditions after the second sprint; however, RPE was significantly different with $p = 0.034$ between 10-15°C and 16-20°C immersion conditions. The study suggested that the recovery post the two cold-water immersion conditions were similar in terms of performance and physiological factors; however, the 16-20°C temperature had a better “feel good” factor post sprint 2. Further study is recommended as there was participant bias with the swimmers not reaching optimal levels in sprint 1. Therefore, they might have possibly fully recovered before sprint 2, invalidating the physiological effect of recovery.

Keywords : hydrotherapy, blood lactate, fatigue, recovery, sprint-performance, sprint-swimming

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