

## **Post-Exercise Effects of Cold Water Immersion over a 48-Hour Recovery Period on the Physical and Haematological Parameters of Male University-Level Rugby Players**

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**Abstract :** Background: Cold water immersion (CWI) is a popular recovery modality utilised. However, discrepancies exist regarding the results over a 48 hour recovery period. Aim: To evaluate the effects of CWI and passive recovery (PAR) on a range of haematological and physical parameters over a 48-hour using a cross-sectional, pre-post-test design. Subjects and Methods: Both the and physical parameters were evaluated at baseline, after a 15-min fitness session, and at 0, 24 and 48 hours post-recovery in 23 male university rugby players. The CWI group sat in a cold water pool (8°C) for 20 min whereas the PAR group remained seated. Results: At 0 hours post-CWI, three (blood lactate (BLa-), Sodium (Na+) and haemoglobin) returned to baseline values, however Vertical Jump Test (VJT) height results decreased whereas after PAR it improved. From 0 to 24 and/or 48 h, four (Partial Oxygen (PO<sub>2</sub>) VJT-height, plasma glucose, and Na+) significantly increased ( $p \leq 0.05$ ) in either and/or both groups. Significant intergroup differences ( $p \leq 0.05$ ) were noticed in the physical tests. Conclusions: PAR is superior as an acute modality (0 hours) due to CWI cooling the body down. However, CWI demonstrates advantageous over a 24-hour period in a wide range of haematological variables.

**Keywords :** cryotherapy, recuperation, haematological, rugby

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