Recovery strategies are commonly utilised in team sports despite limited scientific evidence to support their effectiveness in facilitating optimal recovery. The aim of this study was to determine the effects of selected recovery procedures on intermittent-sprint exercise performance (simulating netball) repeated on consecutive days with 24 h recovery. Ten female netball players performed a familiarisation and 20-m shuttle run test to estimate VO2max, followed by 8 testing sessions involving four recovery interventions. Each condition consisted of two identical testing sessions (Session 1 and Session 2), apart from the recovery intervention implemented. The intervention was performed following Session 1 for 15 min and consisted of passive (PAS) no physical activity, active (ACT) low intensity exercise at 40% velocity of VO2max, cold water immersion (CWI) in an ice bath of 9°C and contrast temperature water immersion (CTWI) with alternation between warm (39°C) and cold (9°C) water. Each testing session consisted of a warm-up, pre-exercise performance tests, a 4x15 min intermittent-sprint exercise circuit and post-exercise performance tests. Performance measures consisted of 5 vertical jumps in 20-s and 5 x 20-m sprints departing every 20-s. Physiological measures of mean skin temperature (Tsk), heart rate (HR), nude mass, ratings of perceived exertion (RPE), ratings of muscle soreness (MS) and capillary blood measures of lactate (La), pH, bicarbonate (HCO3), partial pressure of oxygen (pO2) and oxygen saturation (sO2) were recorded throughout. Results for exercise performance indicated no significant differences (p>0.05) between conditions for 20-m sprint, vertical jump or 10-m sprint and total circuit time within the exercise circuit. However, large effect size data indicated a decreased % decrement in 20-m sprint time post-exercise Session 2 in CTWI and a decreased % decrement in vertical jump pre-exercise Session 2 in CWI. Significantly higher (p<0.05) La, HR and RPE values were present post-intervention in the ACT condition, while HCO3 was significantly lower (p<0.05) in the ACT condition post-intervention. Ratings of MS significantly decreased (p<0.05) in CWI and CTWI compared to the ACT condition, additionally, large effect size data revealed MS decreased in the CWI and CTWI conditions pre-exercise Session 2. These results indicated that no significant physiological differences were evident between the conditions in the performance of subsequent intermittent-sprint exercise. Regardless of a recovery intervention, 24 h separating the exercise bouts was adequate to rectify the abatement of physiological perturbations resulting from uninjured intermittent-sprint exercise. As such, participants were able to maintain performance of speed and power during Session 2. However, despite no significant differences in performance between conditions, athletes perceived an improved recovery following CWI and CTWI interventions and reduced MS prior to exercise on day 2.

Keywords: Sport Performance, Team Sport, Recovery