

28th ECSS Anniversary Congress, Paris/France, 4-7 July 2023

Individualized low-intensity jogging within recovery zone 1 increases the ability of energetic recovery in professional soccer players

Park, S.

CHA univ.

INTRODUCTION:

This study aimed to investigate whether individualized low-intensity jogging (ILIJ) within the recovery zone 1 (RZ1) before lactate threshold 1 (LT 1) increases energetic recovery and general endurance capacity (zones 1, 2, and 3) in Korean professional soccer players.

METHODS:

Twenty-four professional soccer players in the Korea professional Football League ($n = 24$, age: 24.53 ± 4.85 years, height: 180 ± 6.30 cm, body mass: 75.86 ± 8.01 kg, body fat: $12.19 \pm 2.69\%$) participated in the study. During a free season, the 1-h ILIJ intervention involved 27 sessions spanning nine weeks and jogging speed corresponding to 72% of LT 1 (7.15 ± 0.95 km·h⁻¹). Pre- and post-LT testing parameters determined within 9 weeks included blood lactate concentrations (La⁻) and heart rate (HR) at certain exercise intensities during LT test. The jogging/running speeds (S), delta (Δ) S, HR, and ΔHR were analyzed at 1.5, 2.0, 3.0, and 4.0 mmol·L⁻¹ La⁻, respectively.

RESULTS:

Levels of La⁻ and HR at the same exercise intensities (5.4–16.2 km·h⁻¹) in the post-LT test compared with pre-LT test were significantly reduced ($P < 0.05$ and $P < 0.01$, respectively). Moreover, S at all specific La⁻ levels (1.5, 2.0, 3.0, and 4.0) were significantly increased, while HR at 2.0, 3.0, and 4.0 La⁻ decreased significantly ($P < 0.05$ and $P < 0.01$, respectively). Low to moderate positive associations were found between S and ΔHR at 1.5 and 2.0 La⁻ ($r = 0.52$; $R^2 = 0.27$ and $r = 0.40$; $R^2 = 0.16$, respectively).

CONCLUSION:

The nine-week ILIJ within RZ1 increased energetic recovery and general lactate exponential curve (rightward shift) in professional soccer players. This effect relates to repeated high-intensity intermittent sprints during the 90-min soccer game.

Topic: Training and Testing

Presentation: Oral

European Database of Sport Science (EDSS)

Supported by SporTools GmbH



34025