Electrostimulation’s Enhancement of Recovery During a Rugby Preseason

C. Martyn Beaven, Christian J. Cook, David Gray, Paul Downes, Ian Murphy, Scott Drawer, John R. Ingram, Liam P. Kilduff and Nicholas Gill

Abstract

Rugby preseason training involves high-volume strength and conditioning training, necessitating effective management of the recovery-stress state to avoid overtraining and maximize adaptive gains.

Purpose

Compression garments and an electrostimulation device have been proposed to improve recovery by increasing venous blood flow. These devices were assessed using salivary testosterone and cortisol, plasma creatine kinase, and player questionnaires to determine sleep quality, energy level, mood, and enthusiasm.

Methods

Twenty-five professional rugby players were assigned to 1 of 2 treatments (compression garment or a concurrent combination of electrostimulation and compression) in a crossover design over 2 × 2-wk training blocks.

Results

Substantial benefits were observed in self-assessed energy levels (effect size [ES] 0.86), and enthusiasm (ES 0.80) as a result of the combined treatment when compared with compression-garment use. The combination treatment had no discernable effect on salivary hormones, with no treatment effect observed. The electrostimulation device did tend to accelerate the return of creatine kinase to baseline levels after 2 preseason rugby games when compared with the compression-garment intervention (ES 0.61; \(P = .08\)).

Conclusion

Electrostimulation elicited psychometric and physiological benefits reflective of an improved recovery-stress state in professional male rugby players when combined with a lower-body compression garment.