

## ABSTRACT

### EFFECTS OF FAR INFRARED HEAT ON RECOVERY IN POWER ATHLETES

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**Objective.** The purpose of this study was to investigate the effects of the far infrared (FIR) heat on the recovery of the power athletes during the 5-day intensive training period.

**Methods.** The experimental group acted also as its own control group and it consisted of ten national level male athletes ( $22.3 \pm 4.5$  years) from power events. Training consisted of strength-, power-, and technique sessions. Performance tests included isometric strength tests, a countermovement jump (CMJ) and a Wingate 30 s test. Serum concentration of testosterone, cortisol, sex hormone binding globulin, high-sensitivity C-reactive protein and creatinekinase were analysed. During the experimental condition the participants used whole body infrared bag (40 min at temperature of 50 °C) every evening on consecutive four days.

**Results.** CMJ height ( $p \leq 0.05$ ) and peak power in the Wingate test ( $p \leq 0.05$ ) were greater after the experimental condition. The increase in the testosterone/cortisol (T/C) ratio between the preand post-measurements was significantly greater ( $p \leq 0.05$ ) during the experimental condition than during the control condition.

**Conclusions.** The present study indicates that the FIR heat improves recovery of the neuromuscular performance during the 5-day intensive training period associated with the increase in the T/C ratio. Improved recovery can enable harder training and can further accelerate athletic development. FIR heat provides a useful tool to accelerate recovery, but it does not replace other strong recovery supporting modalities like nutrition and sleep.

**Keywords.** Far infrared heat; Recovery; Sport performance; Testosterone; T/C ratio; Wingate test; Counter movement jump