

Comparing the Effects of Upper and Lower Body Resistance Training on Pain Sensitivity

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STUDY PROTOCOL

This study was a crossover trial of healthy participants. Participants completed a lower body resistance exercise and an upper body resistance exercise in a counterbalanced order across two sessions. Immediately before and after each intervention, participants underwent heat pain threshold and pressure pain threshold.

During the first session, participants underwent familiarization of the heat and pressure pain threshold followed by a 5 repetition maximum test for the upper body and lower body resistance exercise.

In the second and third session, participants underwent either a lower or upper body exercise in a counterbalanced order.

Lower body exercise was a bilateral leg extension conducted at 75% of the estimated 1 repetition maximum. 3 sets of 10 repetitions were performed.

Upper body exercise was a bilateral overhead shoulder press conducted at 75% of the estimated 1 repetition maximum. 3 sets of 10 repetitions were performed.

STATISTICAL ANALYSIS

To examine the immediate changes in heat and pressure pain threshold by condition, separate repeated measures ANOVAs were conducted. Simple effects decomposition with Bonferroni correction were completed. Our a priori alpha level is <0.05.