Association between whole blood lactate and the perceptual responses to compression resistance exercise

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INTRODUCTION

Recent research has showed resistance exercise in combination with an inflated external cuff around the exercising limb (figure 1) with a low amount of weight (20% maximum) can produce similar skeletal muscle improvements (muscle size, strength, endurance) compared to traditional resistance training with heavy weights (65-70% maximum)

The purpose of this study was to explore the perceptual responses of compression resistance exercise by comparing the association between whole blood lactate and exertion, while also considering the influence of thigh circumference.

METHODS

• 8 male, resistance trained subjects completed a control and compression exercise session (4 sets, 75 repetitions, 20% maximum strength, 30 sec rest between sets) on the Biodex System 4 Pro (Figure 2)

• Dependent measures assessed pre-exercise, after set 1, 2, 3, 4, and 5 min post-exercise included:
  • RPE scale (Figure 3)
  • Whole blood lactate (figure 4)

RESULTS

PRELIMINARY FINDINGS

We intend to continue data collection as a larger sample size is needed before any conclusions can be drawn (target N=15). As of now, no observable differences are evident between compression and control trials in terms of lactate buildup and levels of exertion. Our research also suggests that thigh circumference does not effect the perceptual responses to compression resistance exercise training. This information is valuable for understanding how compression exercise should be prescribed in the future.

REFERENCES


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