
Effects of isometric handgrip training among people medicated for hypertension: a multilevel analysis.

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Abstract

OBJECTIVE: To examine the longitudinal effects of isometric handgrip (IHG) exercise training on blood pressure using hierarchical linear modeling.

METHODS: Data from 43 participants who were medicated for hypertension at the time of training were amalgamated from three previous investigations. In each study, IHG training was completed 3 days/week for 8 weeks at 30% of maximal voluntary contraction and resting blood pressure was assessed at twice-weekly intervals throughout.

RESULTS: Hierarchical linear modeling analysis revealed a linear pattern of blood pressure decline over time with estimated reductions of 5.7 and 3 mmHg reductions in systolic and diastolic pressure, respectively. Participants with higher initial systolic pressure showed greater rates of blood pressure decline (r=-0.67), inferring that individuals with higher blood pressure stand to achieve greater benefits from this method of training.

CONCLUSIONS: These results provide further evidence that IHG training lowers resting blood pressure among persons medicated for hypertension.

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